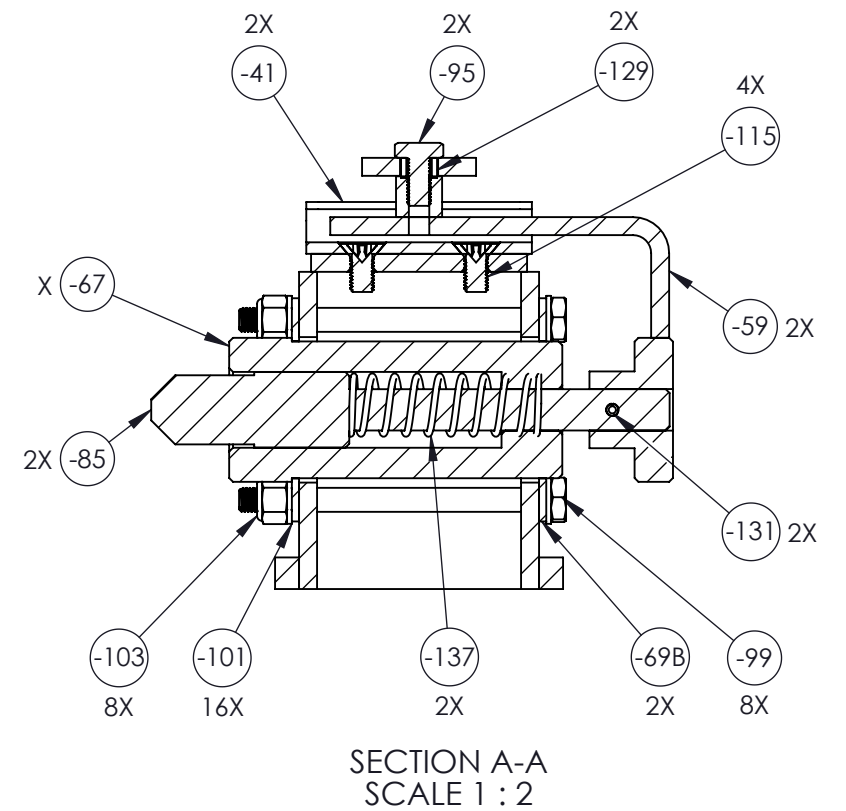
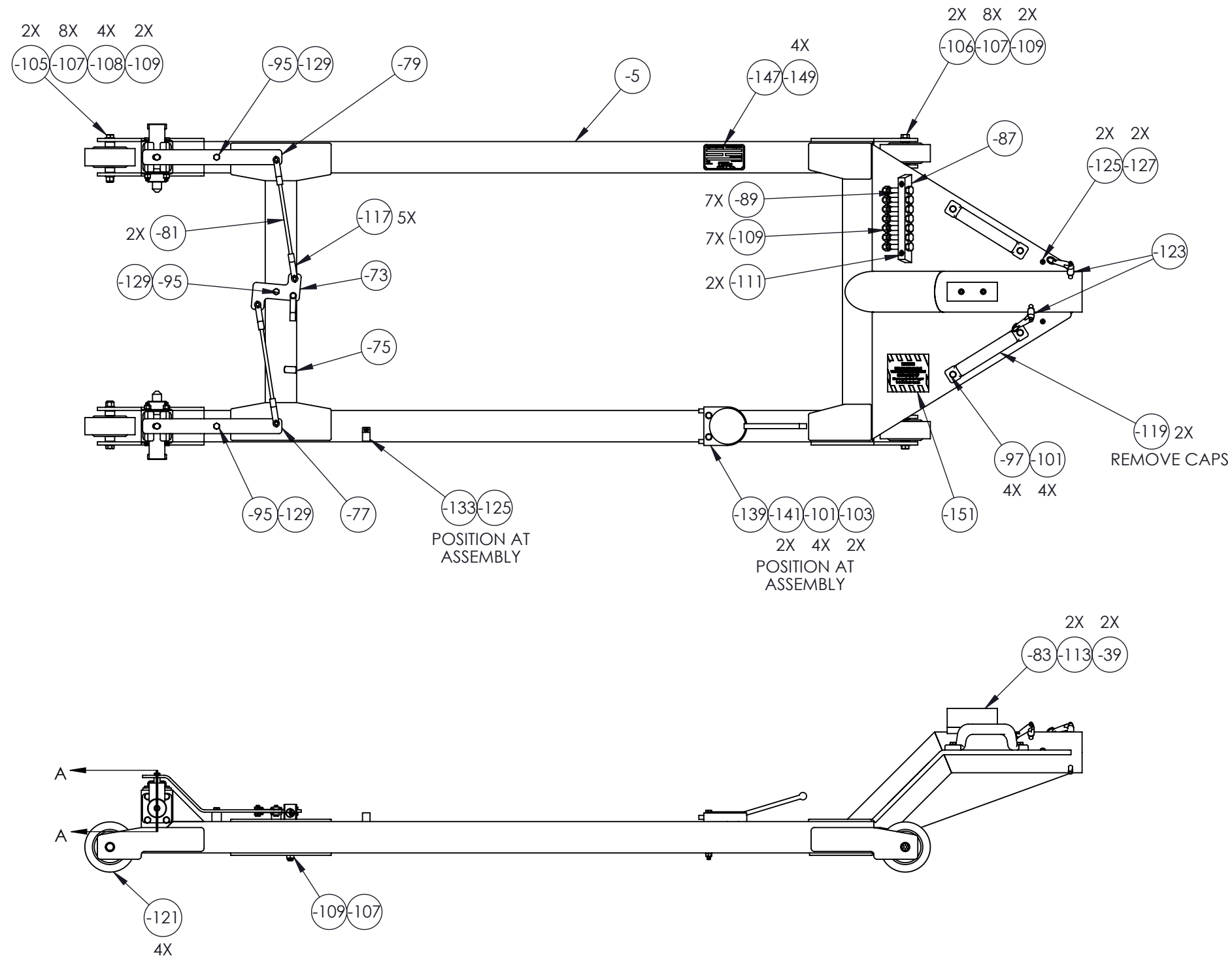


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DART AEROSPACE			
TITLE TOW BAR, (FLIR)			
DWG NO. RBW0905G10331-3G-03			REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1		DRAWN BY: CLOUGH APPROVED: <i>D Weil</i> HEAT TREAT FINISH SPEC	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL AW139	
SCALE 1:10	DATE 11/28/2012	SHEET 1 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D -39 RIVET NUT FROM ALUMINUM, -83 FROM POLYURETHANE 45-50A, -105 FROM AN6-23A, ADDED -131, -133, -135, -137, -139, & -141.	1/25/2013	RJC	SE
1A		CH'D TITLE BLOCK WAS RED BARN IS DART. -87 & -89 CH'D DESCRIPTION WAS "SHEER" IS "SHEAR". -121 CH'D B/O INFO WAS MSC #89764302 IS MSC #65366338, ADDED -143 SAFETY PIN TOWING/PUSHING #RBW0905G12631-3G, ADDED -145 TONGUE ASSEMBLY #RBW0905G00134-3G-01.	12/20/2013	CFS	RW
2	14-0167	REMOVED -143 & -145, -5 CH'D SPACING FOR -54 & -56 FRONT INSIDE WHEEL BRACKETS & ADDED DIM, WAS 2.500 IS 1.865, REMOVED -35 FROM WELDMENT, -6 ADDED -35 TO WELDMENT, -23 & -25 DELETED DIMS 9.421, 4.047, 1.623, 4.933, CH'D DIMS WAS (4.30) IS 4.30, WAS (6.313) IS 6.313, WAS (2X 1.063) IS 2X 1.063, -35 CH'D DIMS WAS 1.50 IS (1.50), WAS .13 IS (.13), -41 CH'D DIM WAS .519 IS (.519), -43 CH'D DIM WAS .12 IS (.12), -54 & -56 CH'D MAT'L WAS 6061 SQ TUBE IS 6061, ADDED MISSING DIM R.25, CH'D DIM WAS 5X R.25 IS 6X R.25, CH'D B/O INFO WAS 6 X 6 X 1/4 WALL IS 1/4 X 2-5/8 X 5-7/8, -67 CH'D DIM WAS LIMITS Ø.7895-.7915 IS LIMITS Ø.7895-.7915 2.837, -105 CH'D QTY WAS 4 IS 2, -69A & -69B DELETED DIMS .225, .413, ADDED DIMS .938, .750, -71 CH'D DIM WAS Ø1.425 +.000-.002 IS Ø1.425 +.000-.005, -73 DELETED DIM 1.350, ADDED DIM .40, -79 CH'D DIM WAS .188 IS (.188), -87 CH'D DIM WAS 6.50 IS (6.50), -106 & -108 ADDED TO BOM, -107 CH'D QTY WAS 9 IS 17, CH'D TOLERANCE ON NON-CRITICAL DIMENSIONS, -129 CH'D DIM WAS Ø.375 IS (Ø.375), -151 ADDED TO BOM & ADDED DRAWING.	9/30/2014	DPD	JAG

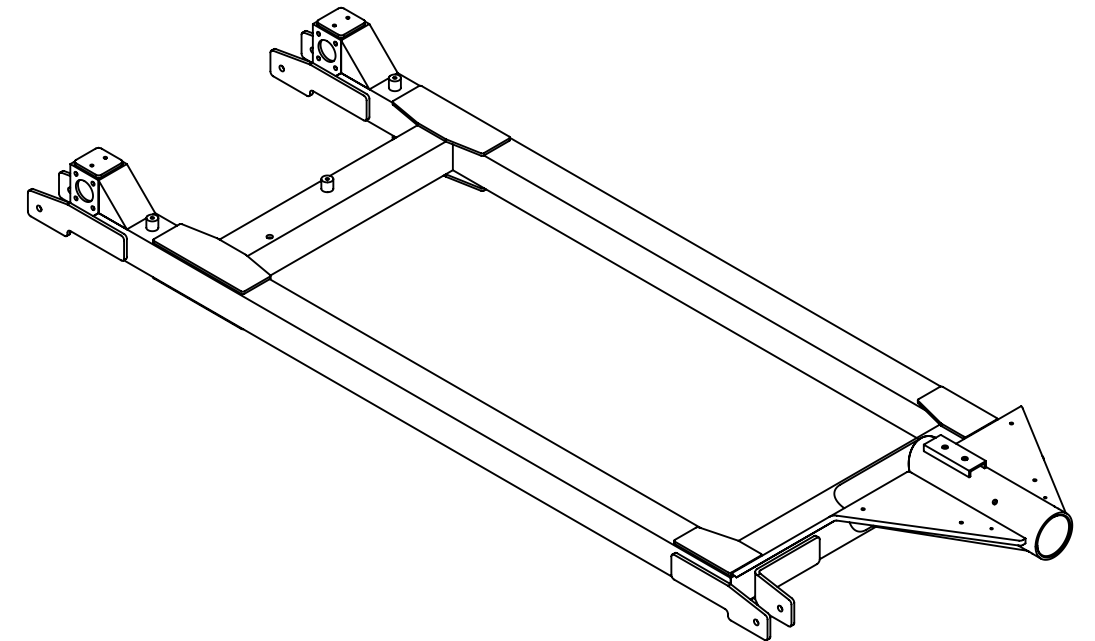
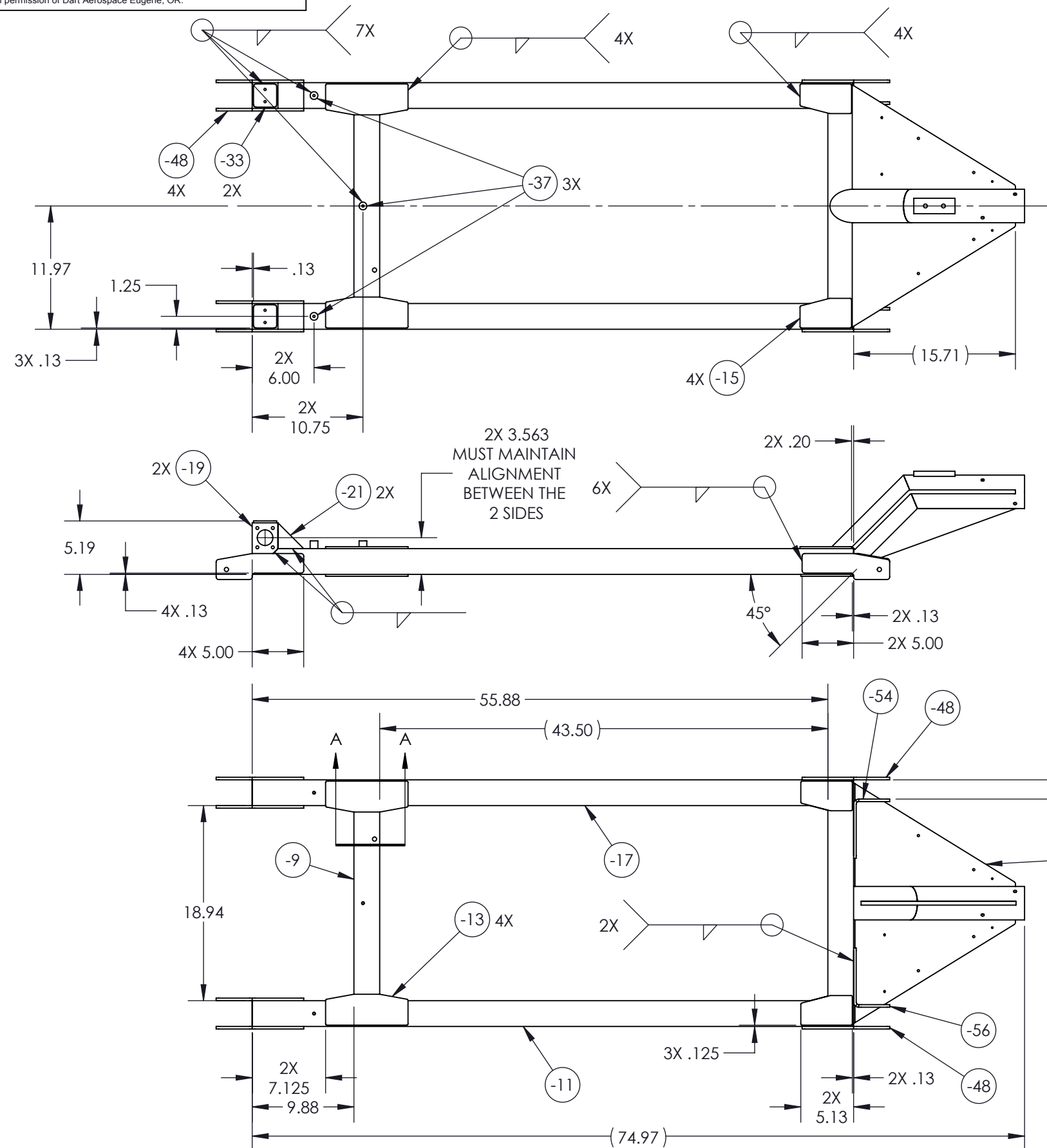
ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
				X		-5	1	FRAME WELDMENT			3
			X	1		-6		TUBE WELDMENT			4
			1			-7		FRONT CROSSBAR	6061	3/16 WALL X 2-1/2 X 2-1/2 X 23-15/16	5
				1		-9		REAR CROSSBAR	6061	3/16 WALL X 2-1/2 X 2-1/2 X 19	6
				1		-11		LEG	6061	3/16 WALL X 2-1/2 X 2-1/2 X 58-1/2	7
				4		-13		REAR GUSSET	6061	3/16 X 3 X 8-1/8	8
				4		-15		FRONT GUSSET	6061	3/16 X 2-7/8 X 5-1/8	9
				1		-17		LEG	6061	3/16 WALL X 2-1/2 X 2-1/2 X 58-1/2	10
				2		-19		LEG	6061	3/16 WALL 2-1/2 X 2-1/2 X 5-1/8	11
				2		-21		UPRIGHT GUSSET	6061	3/16 WALL X 2-1/2 X 2-1/2 X 3-11/16	
			1			-23		RIGHT ANGLE PLATE	6061	3/8 X 10-1/4 X 20	13
			1			-25		LEFT ANGLE PLATE	6061	3/8 X 10-1/4 X 20	14
			1			-27		TUBE	6061	Ø3-1/4 X 1/4 X 10-1/4	15
			1			-29		FRAME TUBE	6061	Ø3-1/4 X 1/4 X 11-7/8	16
			1			-31		TONGUE GUSSET	6061	3/8 X 3-3/8 X 16-1/8	17
				2		-33		MOUNT PLATE	6061	3/16 X 2-1/4 X 2-1/2	18
			1			-35		BLOCK PAD	6061	1/8 X 3/4 X 1-1/2 X 4-1/8	19
				3		-37		RISER	6061	Ø3/4 X 7/8	20
					B/O	-39	2	RIVET NUT	STEEL	1/4-20 MCMaster-CARR #98560A571	3
		X				-41	2	GUIDE WELDMENT			21
		1				-43		GUIDE PLATE	1018	.120 X 2 X 2-1/2	22
		2				-45		GUIDE	C.R. STEEL	14ga. X 1-3/16 X 2-1/2	23
				6		-48		WHEEL BRACKET	6061	1/4 X 3 X 8-5/8	24
				1		-54		R FRT. INSIDE WHEEL BRACKET	6061	1/4 X 2-5/8 X 5-7/8	25
				1		-56		L FRT. INSIDE WHEEL BRACKET	6061	1/4 X 2-5/8 X 5-7/8	26
	X					-59	2	PIN SLIDE WELDMENT			27
	1					-61		BUSHING	1018	Ø1/2 X 7/16	28
	1					-63		PIN ATTACHMENT	1018	Ø1-3/4 X 1	29
	1					-65		SLIDE BAR	1018	3/16 X 1-1/4 X 4-3/8	30
X						-67	2	PIN HOUSING WELDMENT			31
1						-69A		HOUSING PLATE	1018	14 ga X 2-1/2 X 2-1/2	32
						-69B	2	HOUSING PLATE	1018	14 ga. 2-1/2 X 2-1/2	32
1						-71		PIN HOUSING	1018	Ø1-1/2 X 3-5/8	33
						-73	1	BELL CRANK	6061	3/16 X 3-1/4 X 3-7/8	34
						-75	1	CABLE BOLT	12L14	Ø3/4 X 4-5/8	35
						-77	1	TRANSFER BAR (RIGHT)	6061	3/6 X 1-3/16 X 12-3/16	36
						-79	1	TRANSFER BAR (LEFT)	6061	3/16 X 1-3/16 X 12-3/16	37
						-81	2	SLIDE LINKAGE ROD	12L14	Ø1/4 X 7-1/16	38
					B/O	-83	1	PAD	URETHANE 60A	1-1/2 X 1-1/2 X 4-1/8 MCMaster CARR #8644K24	39
						-85	2	PIN	4140	Ø1 X 5-5/8	40
						-87	1	TONGUE SHEER BOLT HOLDER	6061	3/4 X 3/4 X 7-1/8	41
						-89	7	TONGUE SHEAR BOLT		REDBARN #RBW0905G01652-3G	1
ASSY -67	ASSY -59	ASSY -41	ASSY -6	ASSY -5							

ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
					B/O	-95	5	HEX HEAD CAP SCREW	STEEL	1/4-28 UNF X 1/2 MCMaster-CARR #92620A562	1
					B/O	-97	4	HEX HEAD CAP SCREW	STEEL	1/4-28 UNF X 3/4 MCMaster-CARR #92620A563	1
					B/O	-99	8	HEX HEAD CAP SCREW	STEEL	1/4-28 UNF X 3-1/4 MCMaster-CARR #91257A574	1
					B/O	-101	24	FLAT WASHER	STEEL	Ø1/4 MCMaster-CARR #94744A240	1
					B/O	-103	10	HEX LOCKNUT	STEEL	1/4-28 UNF MCMaster-CARR #95615A130	1
					B/O	-105	2	HEX HEAD CAP SCREW	STEEL	3/8-24 UNF X 3-19/32 AIRCRAFT SPRUCE #AN6-34A	1
					B/O	-106	2	HEX HEAD CAP SCREW	STEEL	3/8-24 UNF X 3-3/32 AIRCRAFT SPRUCE #AN6-30A	1
					B/O	-107	17	FLAT WASHER	STEEL	Ø3/8 MCMaster-CARR #94744A265	1
					B/O	-108	4	UNTHREADED SPACER	BRASS	Ø3/4 O.D. X 3/8 MCMaster-CARR #90309A523	1
					B/O	-109	12	NYLON INSERT LOCKNUT	STEEL	3/8-24 UNF MCMaster-CARR #97135A235	1
					B/O	-111	2	SOCKET HEAD CAP SCREW	STEEL	1/4-28 UNF X 3/4 MCMaster-CARR #92562A588	1
					B/O	-113	2	SOCKET HEAD CAP SCREW	STEEL	1/4-20 UNC X 1-1/8 MCMaster-CARR #91251A560	1
					B/O	-115	4	FLAT HEAD SCREW	STEEL	1/4-28 UNF X 1/2 MCMaster-CARR #90273A557	1
					B/O	-117	5	CLEVIS ROD END	STEEL	1/4-28 UNF X 2 MCMaster-CARR #6071K120	1
					B/O	-119	2	PULL HANDLE	STEEL	1 X 2-1/16 X 6-5/16 MCMaster-CARR #1973A100	1
					B/O	-121	4	CASTER WHEEL	POYURETHANE	Ø4 X 1-1/4 MSC #65366338	1
					B/O	-123	2	L-HANDLE BALL LOCK PIN	S.S.	Ø5/16 X 3-1/4 CARR-LANE #CL-5-BLPL-3.50-S-C	1
					B/O	-125	3	PAN HEAD SCREW	STEEL	10-32 X 3/8 MCMaster-CARR #96880A513	1
					B/O	-127	2	LANYARD	NYLON COATED STEEL	12" CABLE MCMaster-CARR #30345T24	1
						-129	5	SLEEVE	BRONZE	1/4 I.D. X 3/8 O.D. X 1/4 MCMaster-CARR #1688K4 (MOD.)	42
					B/O	-131	2	ROLL PIN	STEEL	Ø1/8 X 3/4 MCMaster-CARR #90692A698	1
					B/O	-133	1	LOOP CLAMP	ALUMINUM	Ø1/2 OD MCMaster-CARR #3177T12	1
					B/O	-135	2	WASHER	STEEL	Ø1/4 MCMaster-CARR #91090A107	39
					B/O	-137	2	COMPRESSION SPRING	SPRING STEEL	OD Ø3/4 X 2 CENTURY SPRING #10735	1
					B/O	-139	1	CABLE ASSEMBLY		CABLECRAFT #CA292-3-UT-1-45	1
					B/O	-141	2	HEX HEAD CAP SCREW	STEEL	1/4-28 UNF X 3-3/4 MCMaster-CARR #91247A027	1
					B/O	-147	1	DART PLACARD	ALUMINUM	1/32 X 2-1/8 X 3-3/8	
					B/O	-149	4	#2 DRIVE SCREW	COATED STEEL	1/8 MCMaster-CARR #90081A074	
					B/O	-151	1	WARNING STICKER WITH ADHESIVE BACK	VINYL	SIGNS NOW	
ASSY -67	ASSY -59	ASSY -41	ASSY -6	ASSY -5							

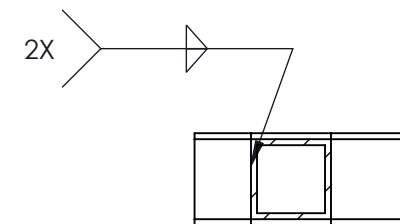
			
TITLE			
TOW BAR, (FLIR)			
DWG NO. RBW0905G10331-3G-03			REV 2
MAT'L		DRAWN BY: CLOUGH	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D Weel</i> REAT TREAT FINISH	
.XXX ± .005 .XX ± .01 .X ± .1	FRACTIONS ± 1/8 ANGLES ± 5°	SPEC	
1. BREAK ALL SHARP EDGES .015 x .45" OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL AW139	
SCALE 1:12	DATE 11/28/2012	SHEET 2 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-5 DELETED -7, -23, -25, -27, -29 & -31 FROM -5 WELDMENT & ADDED -6 WELDMENT. ADDED NEW DEIGN WHEEL BRACKETS -48, -54 & -56.	1/25/2013	RJC	SE
2	14-0167	-5 CH'D SPACING FOR -54 & -56 FRONT INSIDE WHEEL BRACKETS & ADDED DIM. WAS 2.500 IS 1.87. REMOVED -35 & -39 FROM WELDMENT.	9/30/2014	DPD	JAG



⑤
FRAME WELDMENT

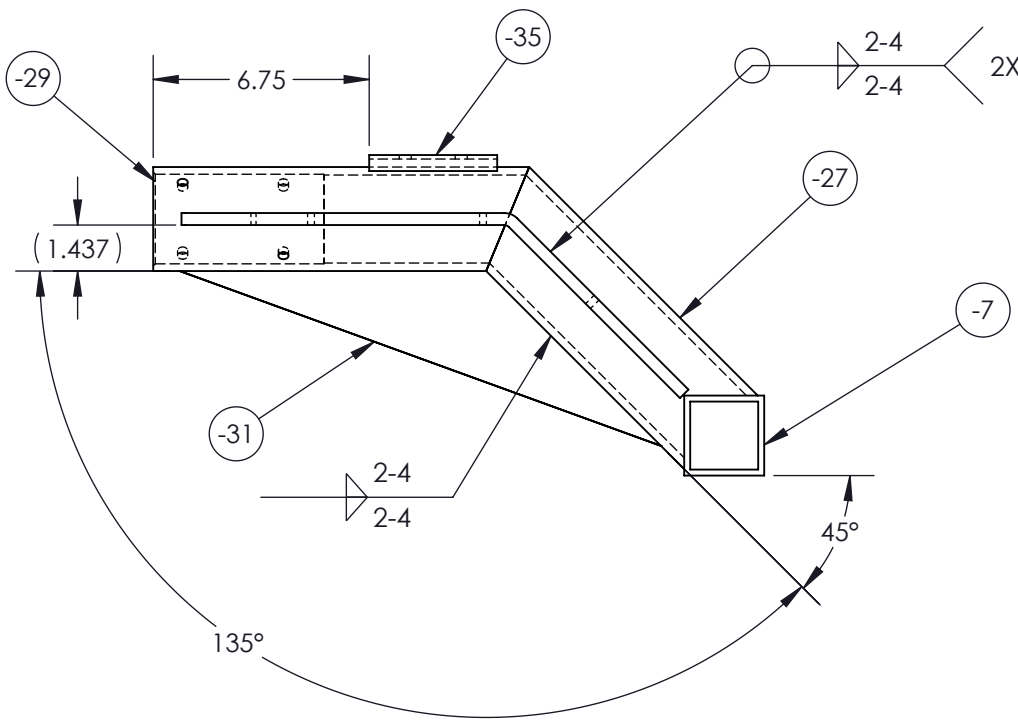
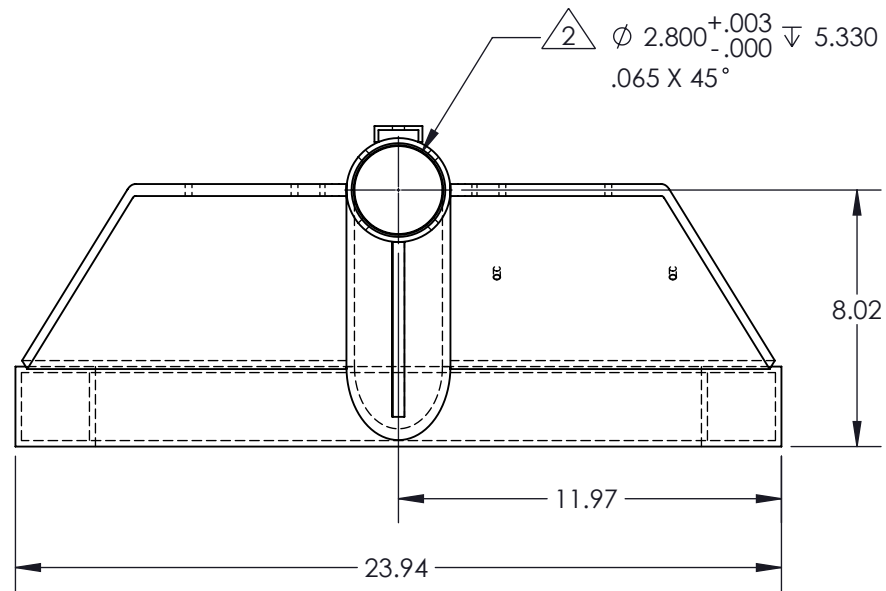
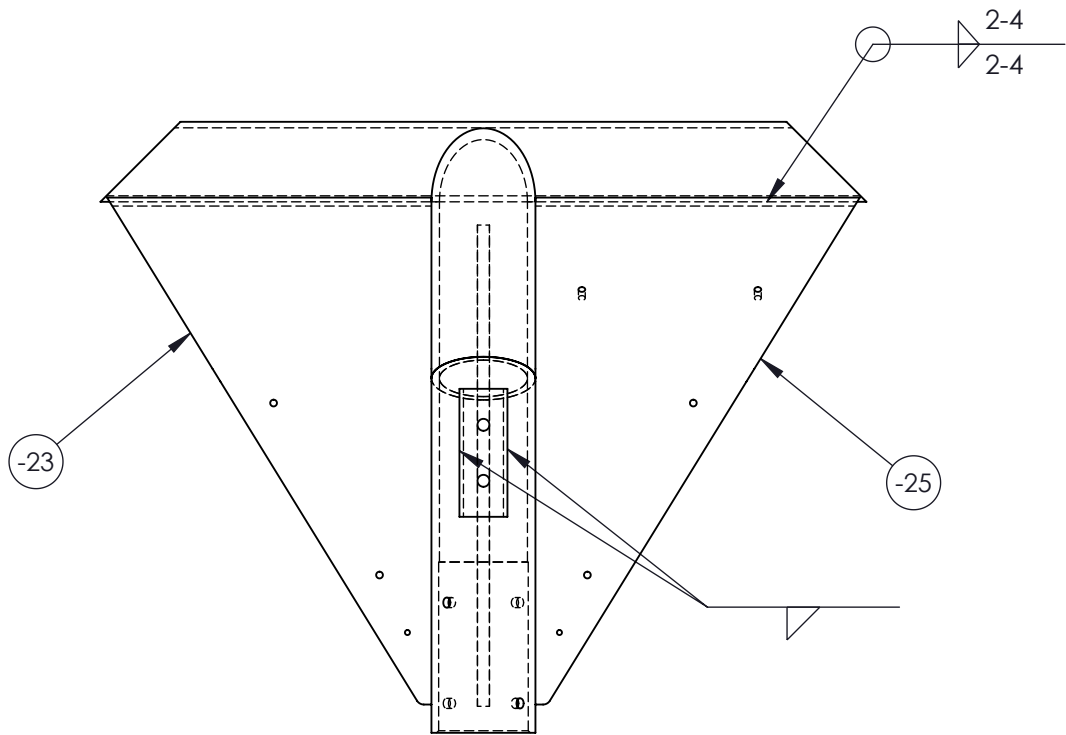


SECTION A-A
SCALE 1 : 6

		
TITLE <div style="text-align: center; font-size: 2em;">TOW BAR, (FLIR)</div>		
DWG NO. <div style="text-align: center; font-size: 1.5em;">RBW0905G10331-3G-03-5</div>	REV <div style="text-align: center; font-size: 2em; color: red;">2</div>	
MAT'L <div style="border: 1px solid black; padding: 5px;"> UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES <div style="display: flex; justify-content: space-between;"> <div> .XXX ± .005 .XX ± .01 .X ± .1 </div> <div> FRACTIONS ± 1/8 ANGLES ± .5° </div> </div> 1. BREAK ALL SHARP EDGES .015 x .45" OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING </div>	DRAWN BY: <div style="text-align: center; font-size: 1.2em;">CLOUGH</div> APPROVED <div style="text-align: center; color: red; font-style: italic;">D Weil</div> <div style="display: flex; justify-content: space-between;"> <div> HEAT TREAT FINISH </div> <div>POWDER COAT YELLOW</div> </div> SPEC <div style="text-align: right;">FED # 13538</div> <div style="text-align: center; border: 1px solid black; padding: 2px;"> USED ON MODEL <div style="font-size: 1.2em;">AW139</div> </div>	
SCALE <div style="text-align: center; font-size: 1.2em;">1:12</div>	DATE <div style="text-align: center; font-size: 1.2em;">11/19/2012</div>	SHEET 3 OF 43

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-6 ADDED WELDMENT.	1/25/2013	RJC	SE
2	14-0167	-6 ADDED -35 TO WELDMENT.	9/30/2014	DPD	JAG



-6

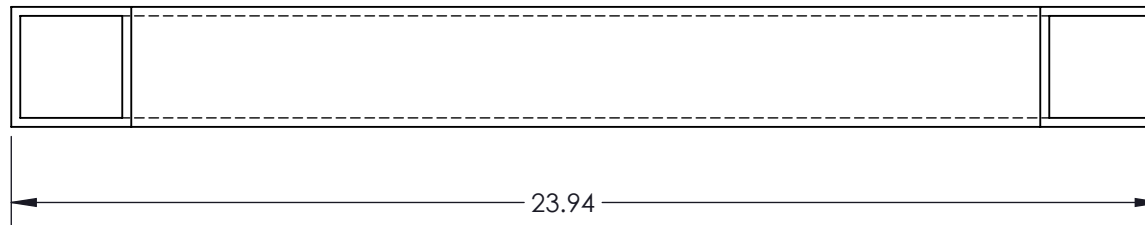
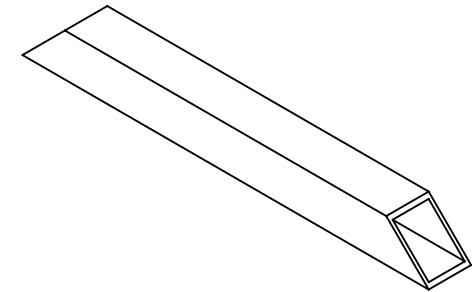
TUBE WELDMENT

NOTE:
1. WELD -7, -23, -25, -27, -29, AND -31 TOGETHER.
2. BORE AFTER WELDING.

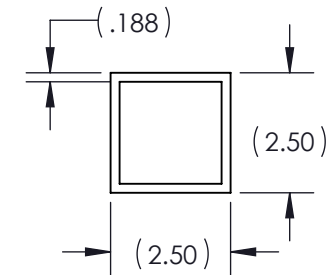
DART AEROSPACE			
TITLE TOW BAR, (FLIR)			
DWG NO. RBW0905G10331-3G-03-6			REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1		DRAWN BY: CLOUGH APPROVED: <i>D Weil</i> HEAT TREAT FINISH SEE -5 WELDMENT SPEC	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL AW139	
SCALE 1:6	DATE 1/22/2013	SHEET 4 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-7 DELETED 2X Ø.266 HOLES & 2X 1/4-28 HOLES, NO LONGER NEEDED WITH NEW DESIGN OF WHEEL BRACKETS.	1/18/2013	RJC	SE



2X 45°



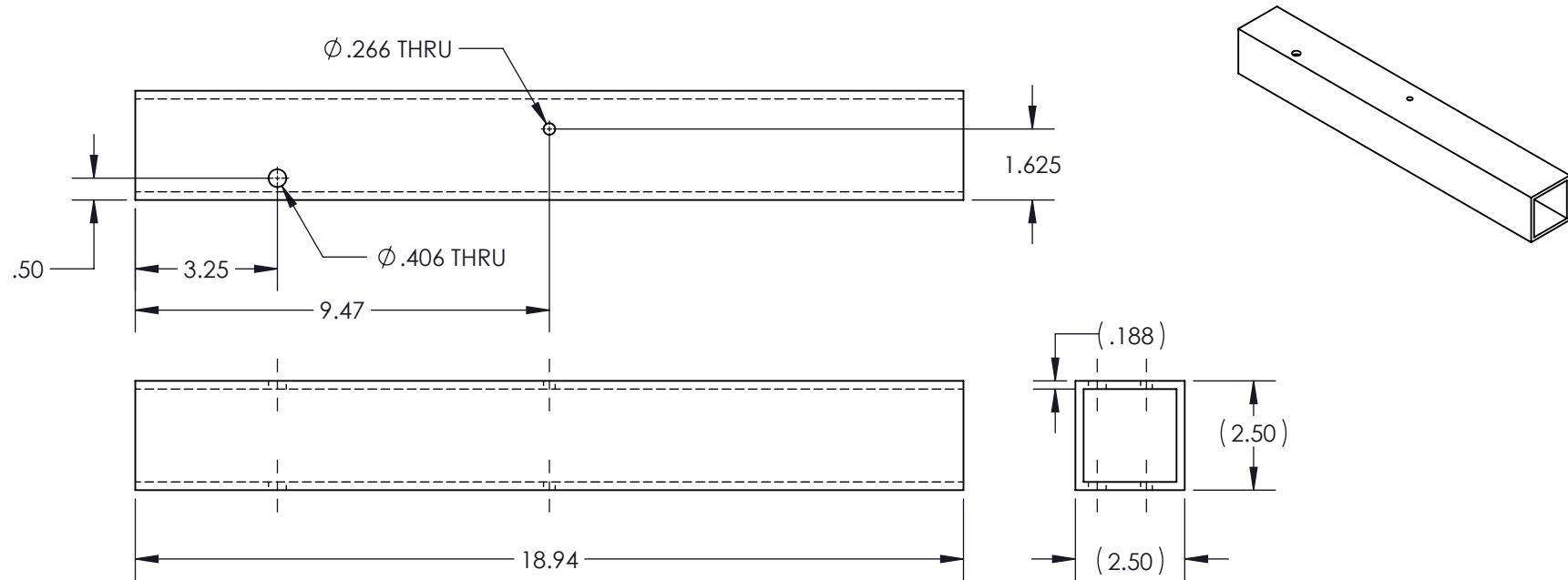
(-7)

FRONT CROSSBAR

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-7	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:4	DATE 11/19/2012
SHEET 5 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-9 CH'D Ø.397 THRU HOLE LOCATION FROM .450 TO .500.	1/25/2013	RJC	SE

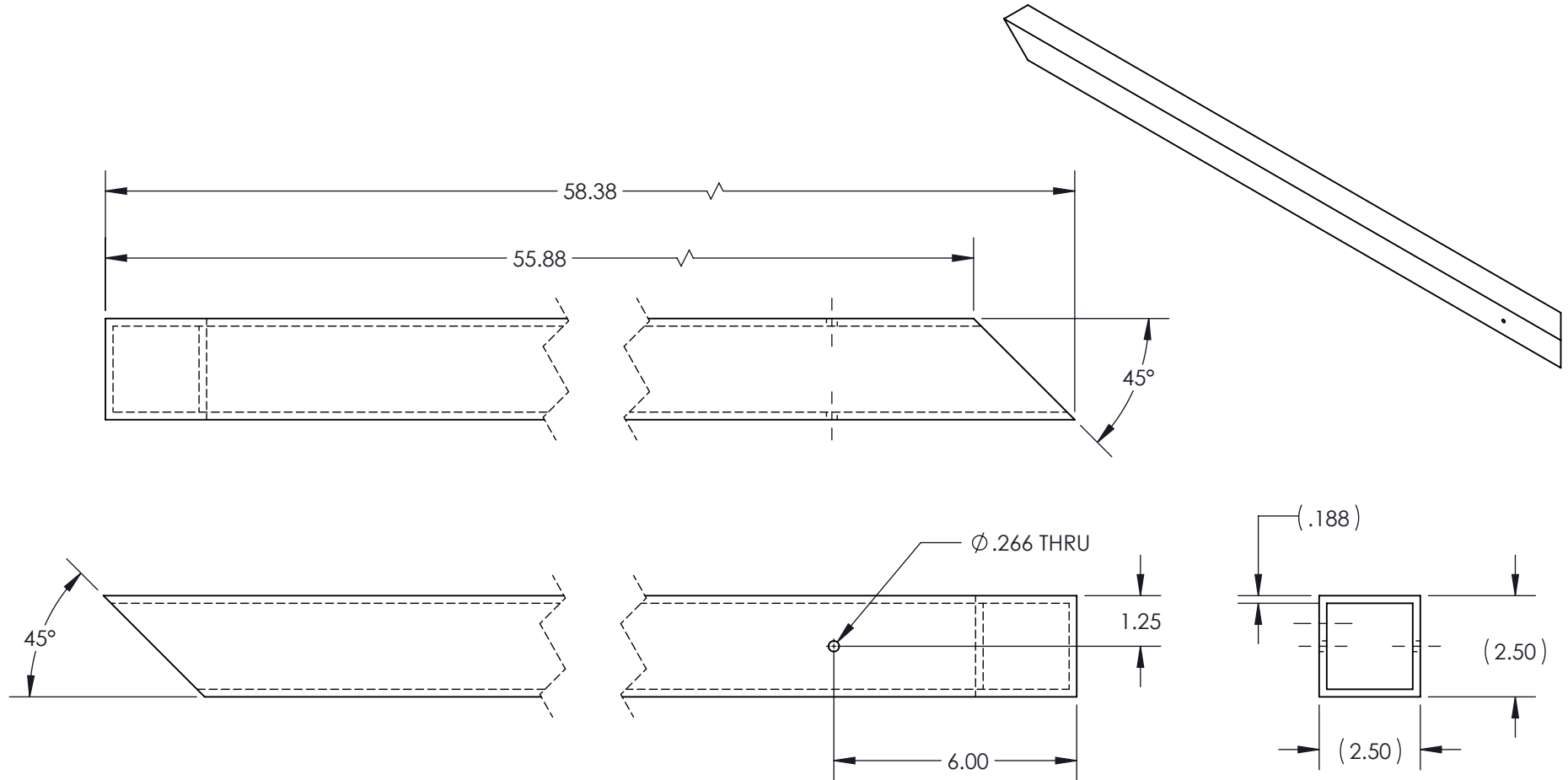


(-9)
REAR CROSSBAR

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-9	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:4	DATE 11/19/2012
SHEET 6 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-11 DELETED Ø.266 THRU HOLES THAT WERE USED FOR FRONT (-53) & REAR (-47) WHEEL BRACKETS.	1/18/2013	RJC	SE



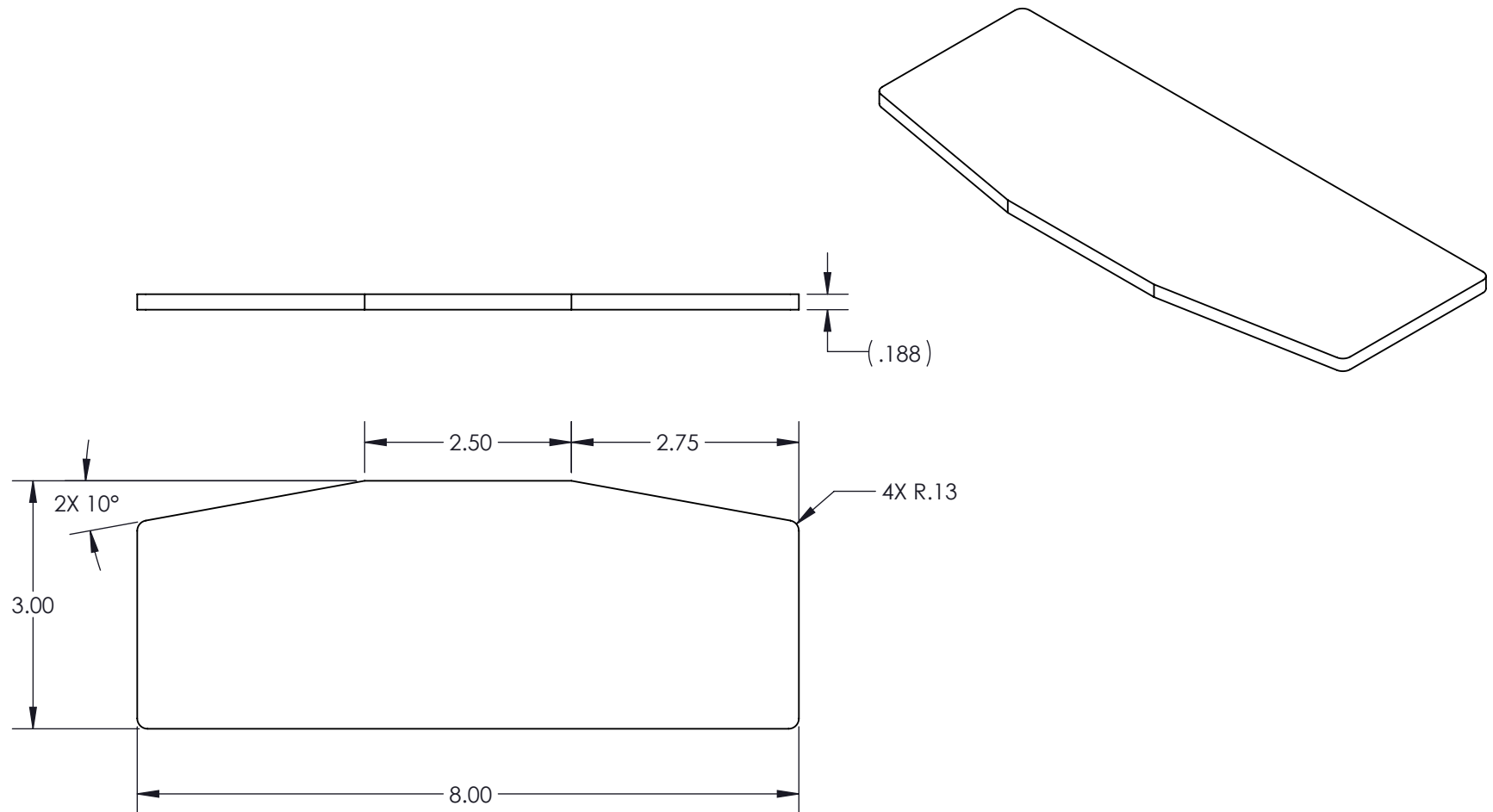
(11)

LEG

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-11	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:4	DATE 11/19/2012
SHEET 7 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED

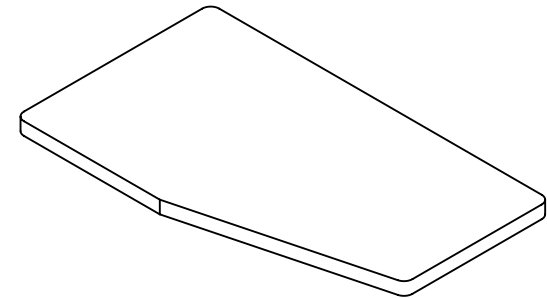
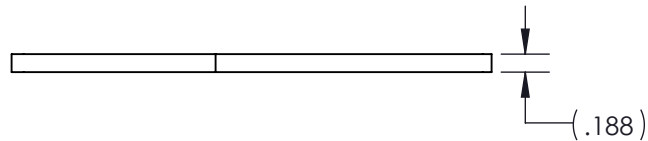
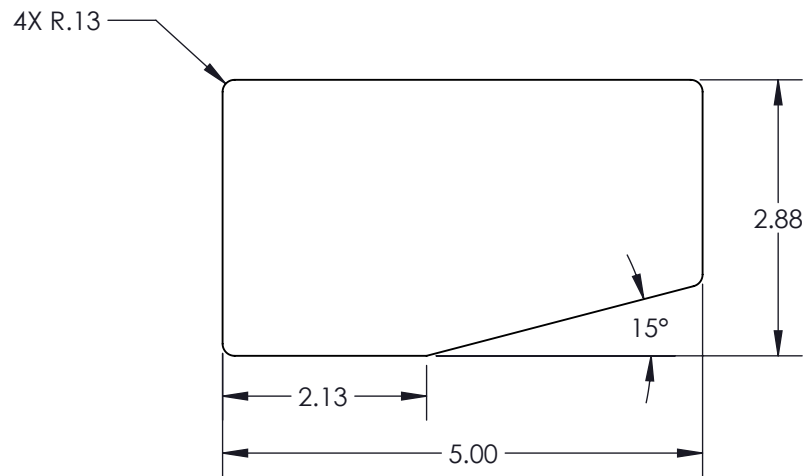


(-13)
REAR GUSSET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-13	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± .5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/19/2012
SHEET 8 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-15 DELETED TABLE FOR -15A & -15B CONFIGURATIONS, REDESIGNED WHEEL BRACKETS, DELETED THREADED HOLES NOT NEEDED.	1/18/2013	RJC	SE

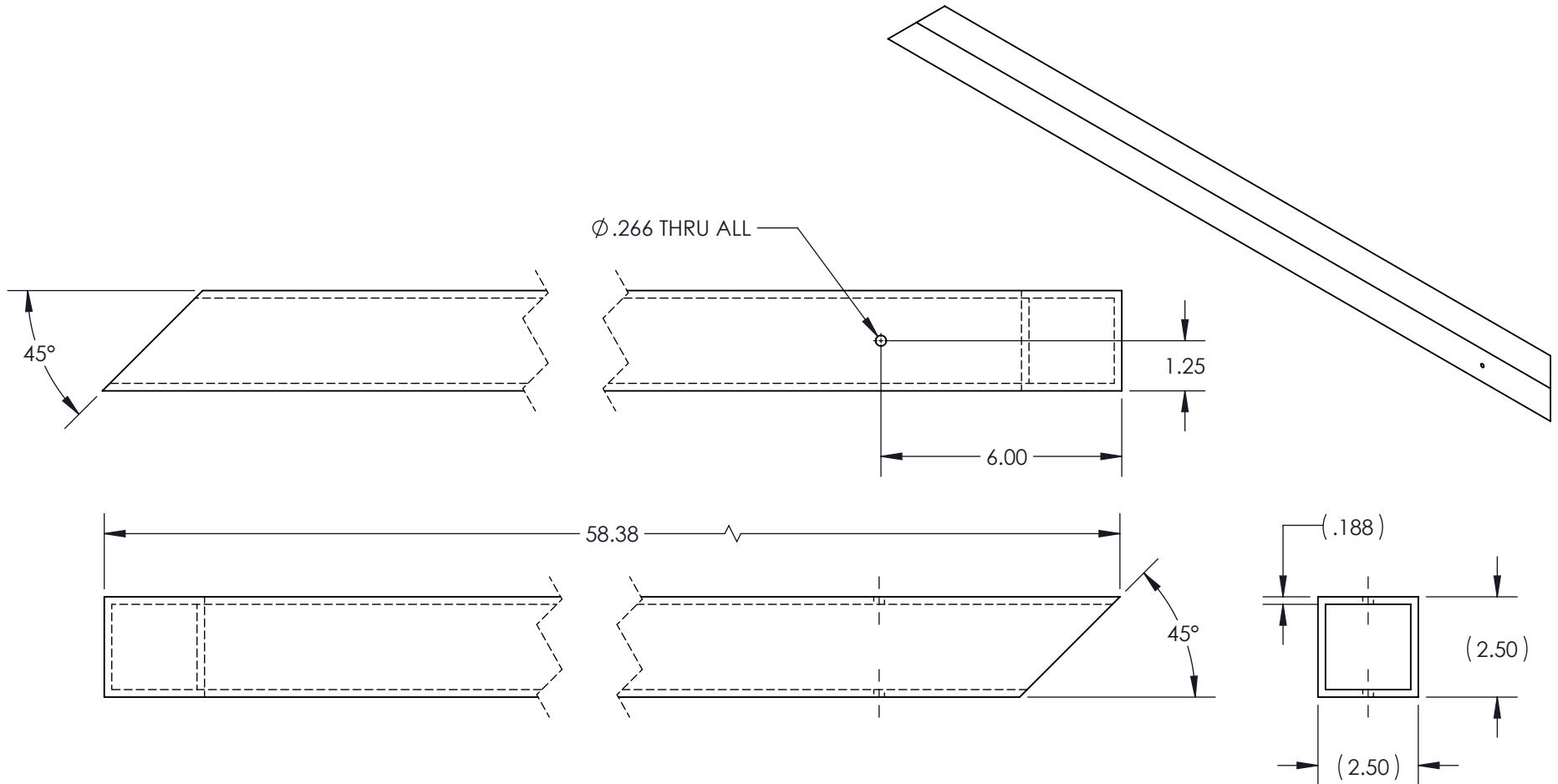


(-15)
FRONT GUSSET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-15	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± .5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/19/2012
SHEET 9 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-17 DELETED Ø.266 THRU HOLES THAT WERE USED FOR REAR WHEEL BRACKET -47.	1/18/2013	RJC	SE

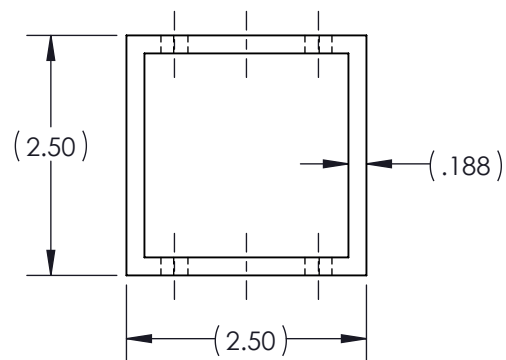
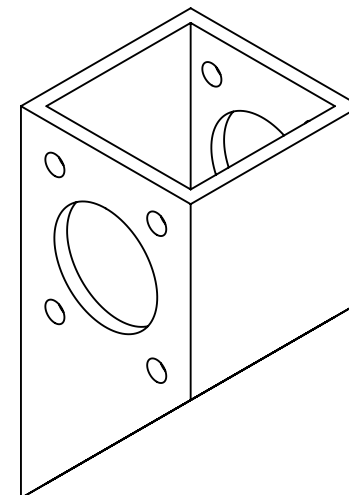
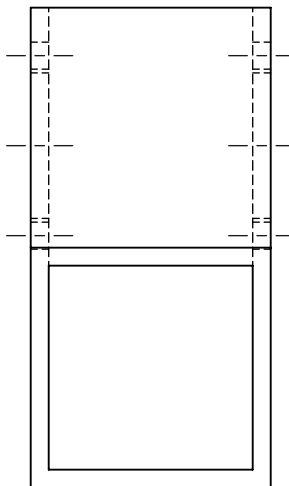
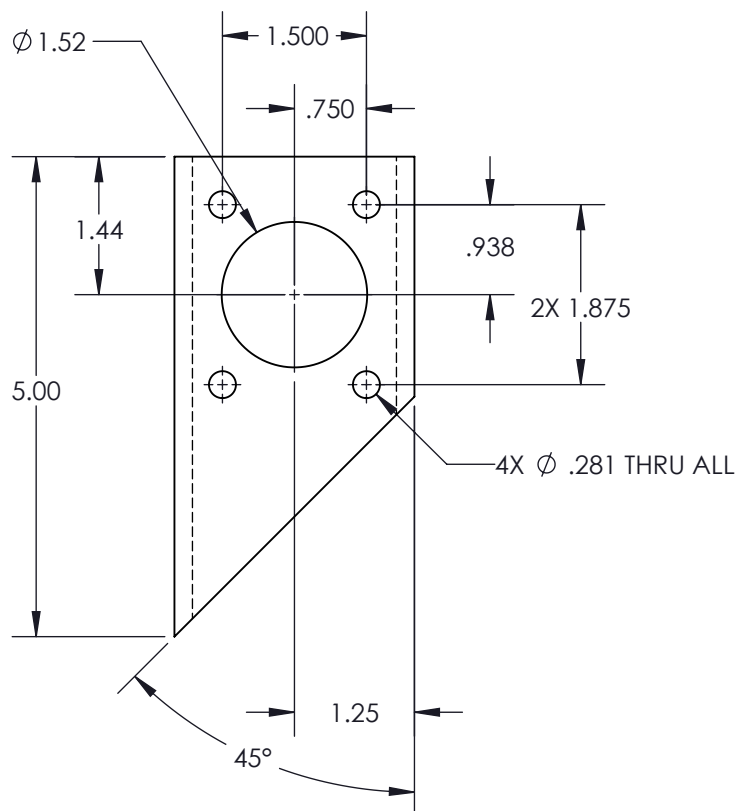


(-17)

LEG

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-17	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:4	DATE 11/19/2012
SHEET 10 OF 43	

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-19 DELETED 2X 1/4-28 HOLES, CH'D HOLE CLEARANCE FROM 4X Ø.257 TO Ø.281.	1/18/2013	RJC	SE



-19

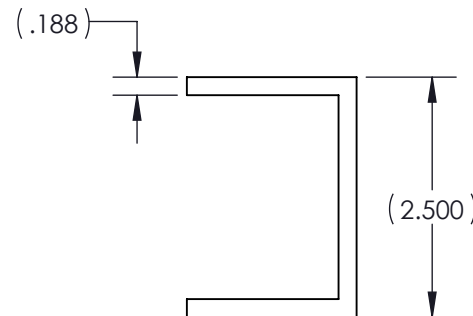
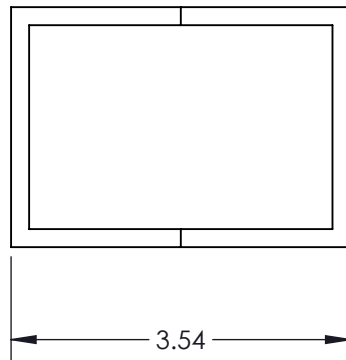
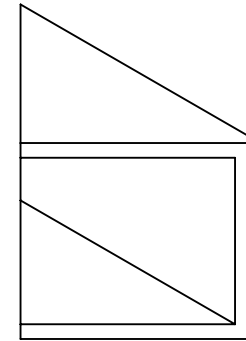
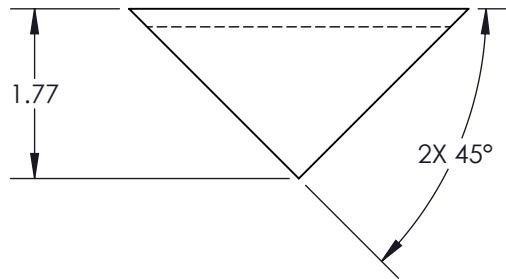
LEG



TITLE		TOW BAR, (FLIR)	
DWG NO.		RBW0905G10331-3G-03-19	REV 2
MAT'L 6061		DRAWN BY: CLOUGH	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D Wed</i>	
.XXX ± .005		HEAT	
.XX ± .01		TREAT	
.X ± .1		FINISH SEE -.5 WELDMENT	
1. BREAK ALL SHARP EDGES .015 x .45" OR .015R		SPEC	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL	
		AW139	
SCALE 1:2	DATE 11/19/2012	SHEET 11 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED



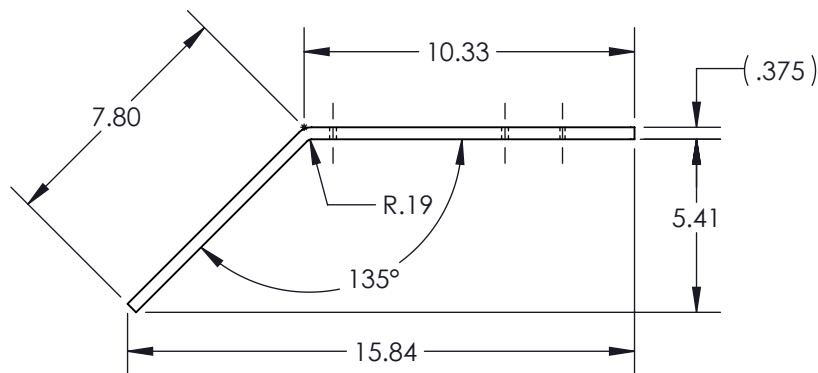
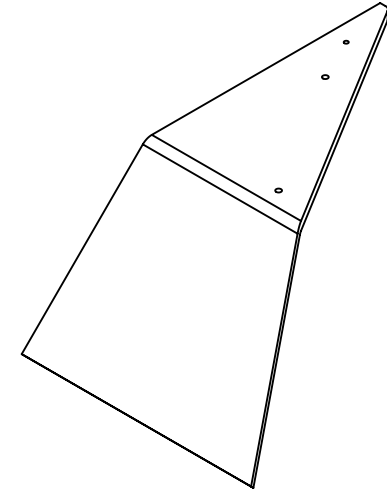
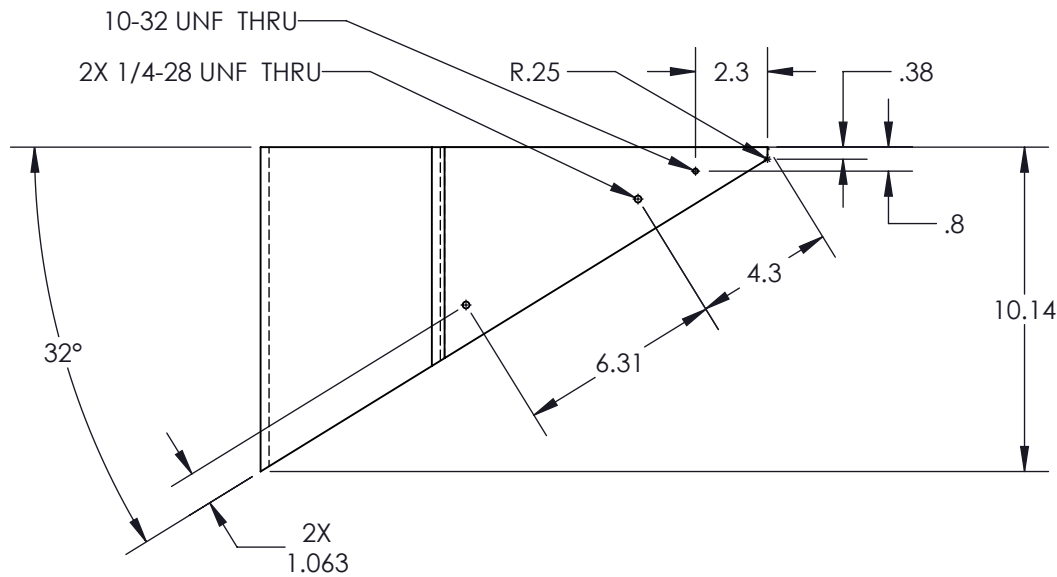
(-21)

UPRIGHT GUSSET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-21	REV 2
MAT'L 6061	DRAWN BY:
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01 ANGLES ± .5°	TREAT
.X ± .1	FINISH
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
	AW139
SCALE 1:2	DATE
SHEET 12 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-23 DELETED 45° ANGLE FROM BOTTOM OF PART.	1/22/2013	RJC	SE
2	14-0167	-23 DELETED DIMS 9.421, 4.047, 1.623, 4.933. CH'D DIMS WAS [4.30] IS 4.30, WAS [6.313] IS 6.313, WAS [2X 1.063] IS 2X 1.063.	10/22/2014	DPD	JAG



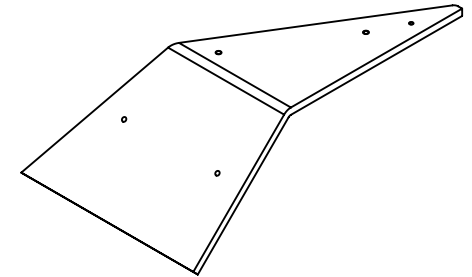
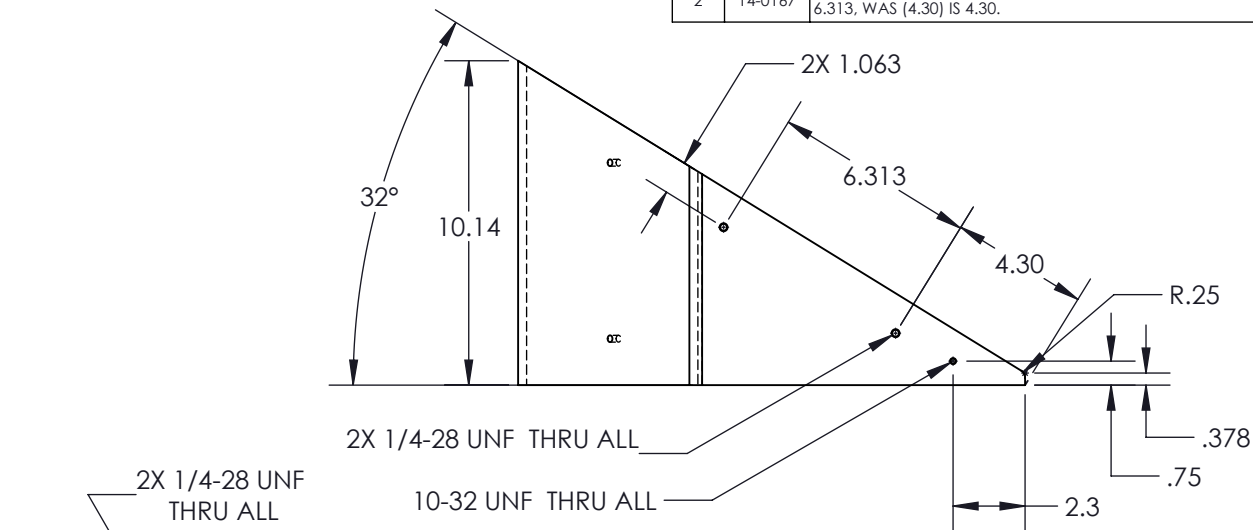
(-23)

RIGHT ANGLE PLATE

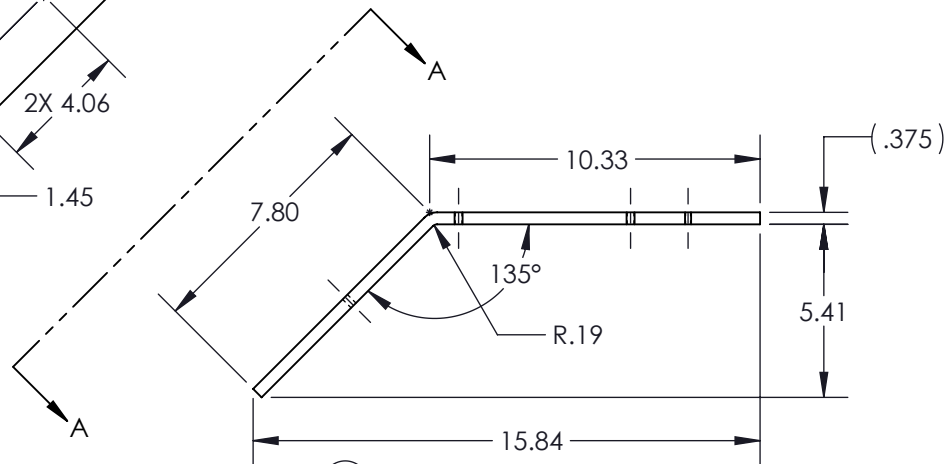
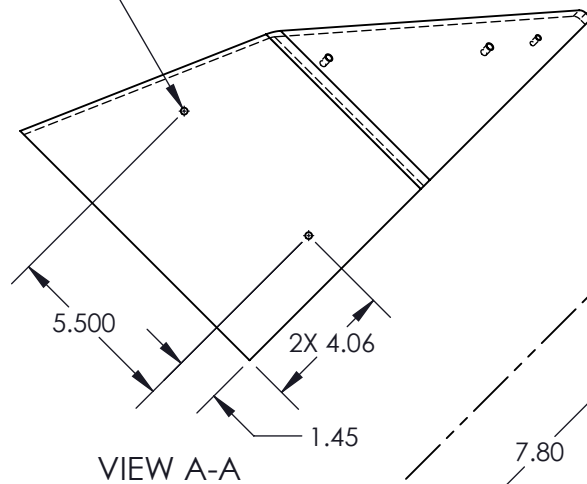
DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-23	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:6	DATE 11/19/2012
SHEET 13 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-25 DELETED 45° ANGLE FROM BOTTOM OF PART.	1/22/2013	RJC	SE
2	14-0167	-25 DELETED DIMS 4.933, 1.623, 4.047, 9.421. CH'D DIMS WAS (2X 1.063) IS 2X 1.063, WAS (6.313) IS 6.313, WAS (4.30) IS 4.30.	10/22/2014	DPD	JAG



2X 1/4-28 UNF THRU ALL



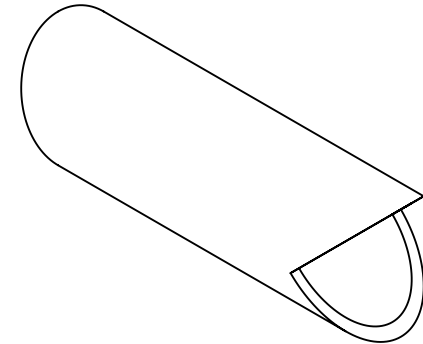
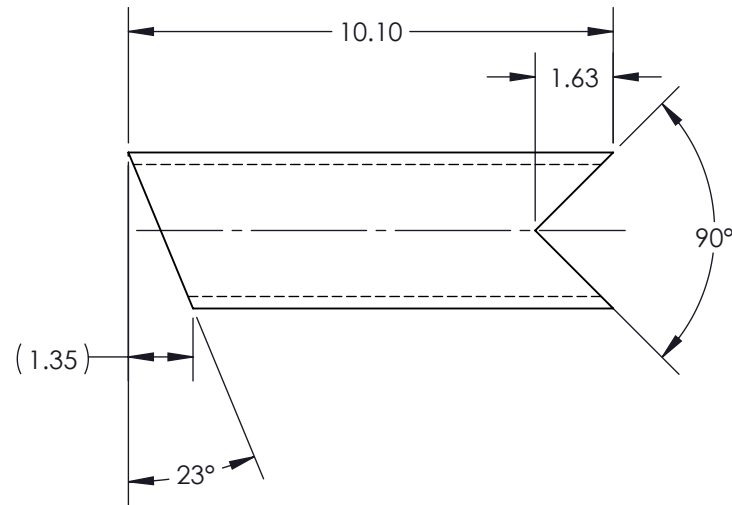
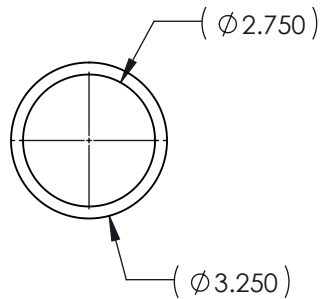
(-25)

LEFT ANGLE PLATE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-25	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:6	DATE 11/19/2012
SHEET 14 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



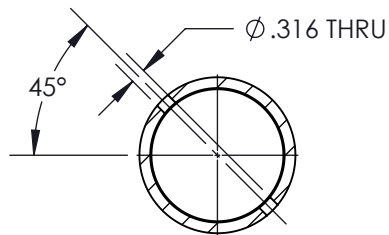
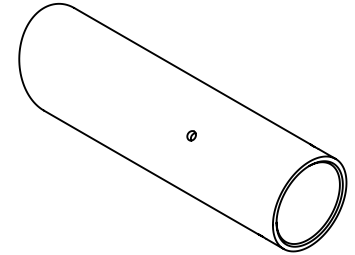
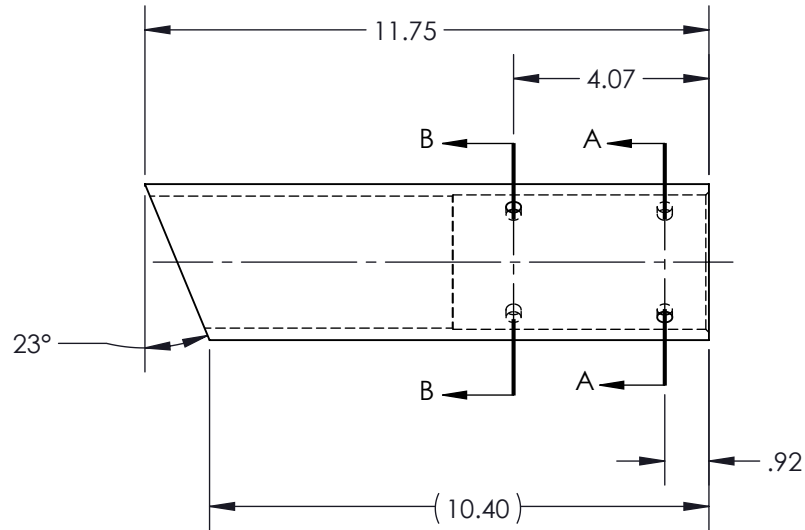
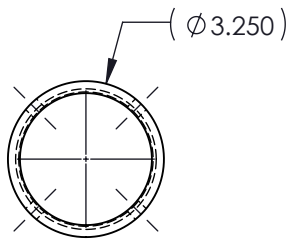
(-27)

TUBE

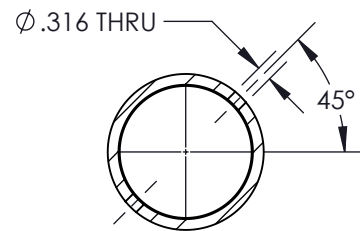
DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-27	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01 ANGLES ± .5°	TREAT
.X ± .1	FINISH SEE -5 WELDMENT
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
	AW139
SCALE 1:6	DATE 11/19/2012
	SHEET 15 OF 43

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-29 CH'D ID FROM Ø(2.750) TO Ø2.800 +.0025-.0000 ∇ 5.330 TO BE BORED AFTER WELD. FLIPPED SECTION B-B VIEW, ADDED DETAIL C.	1/18/2013	RJC	SE



SECTION B-B
SCALE 1 : 4



SECTION A-A
SCALE 1 : 4

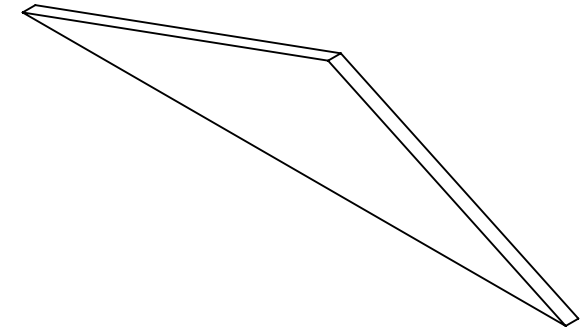
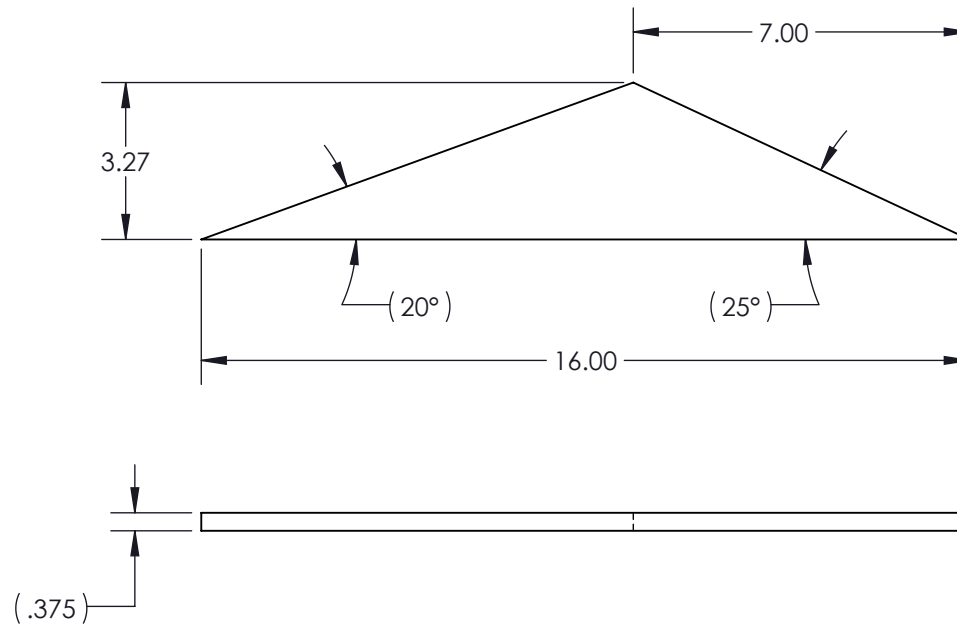
(-29)

FRAME TUBE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-29	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:6	DATE 11/19/2012
SHEET 16 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL



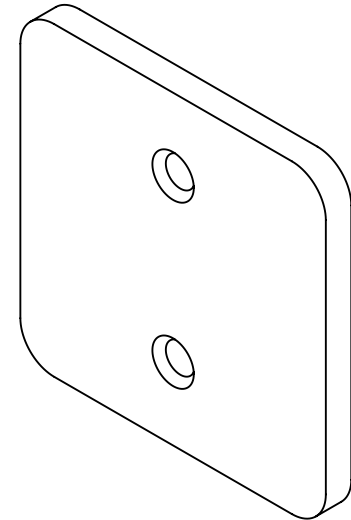
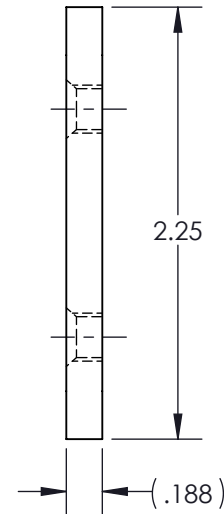
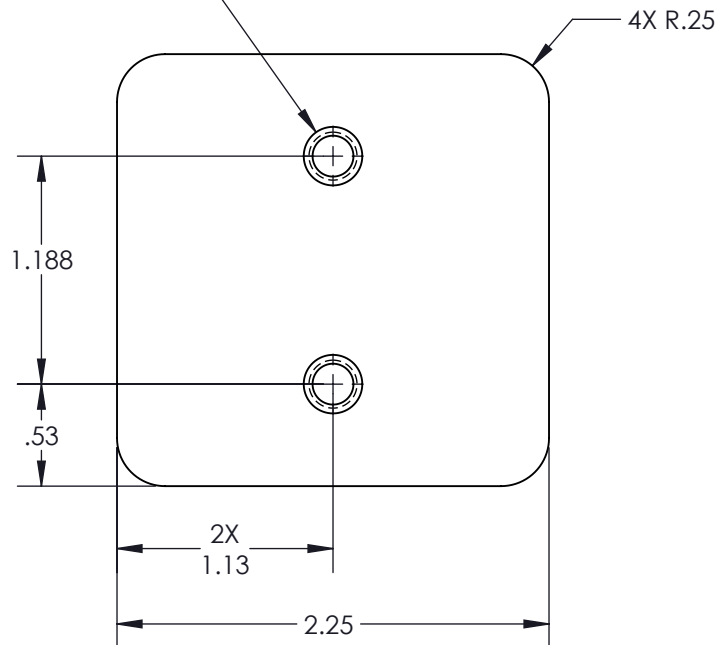
(-31)
TONGUE GUSSET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-31	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010	HEAT TREAT
.XX ± .03	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:4	DATE 11/19/2012
SHEET 17 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-33 ADDED COUNTERSINK TO 1/4-28 UNF HOLE CALLOUT.	1/23/2013	RJC	SE

2X 1/4-28 UNF THRU ALL
 $\checkmark \phi .305 \times 82^\circ$



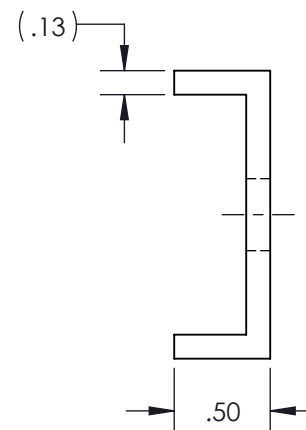
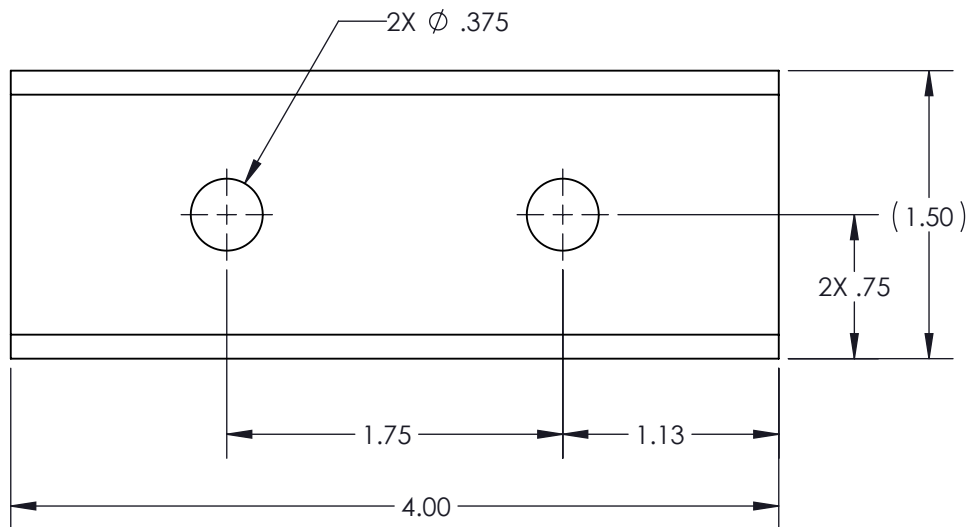
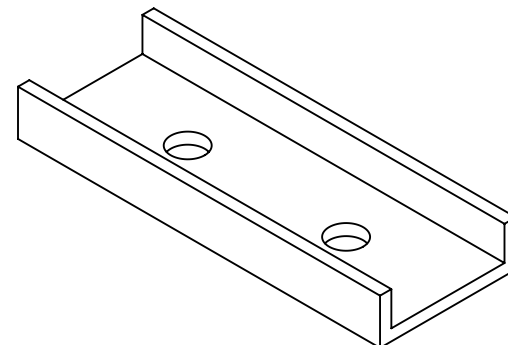
(-33)

MOUNT PLATE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-33	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX $\pm .010$	HEAT TREAT
.XX $\pm .03$	FINISH SEE -5 WELDMENT
.X $\pm .1$	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 18 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-35 CH'D HOLE FROM 2X Ø.266 TO .375.	1/18/2013	RJC	SE
2	14-0167	-35 CH'D DIMS WAS 1.50 IS (1.50), WAS .13 IS (.13).	10/22/2014	DPD	JAG



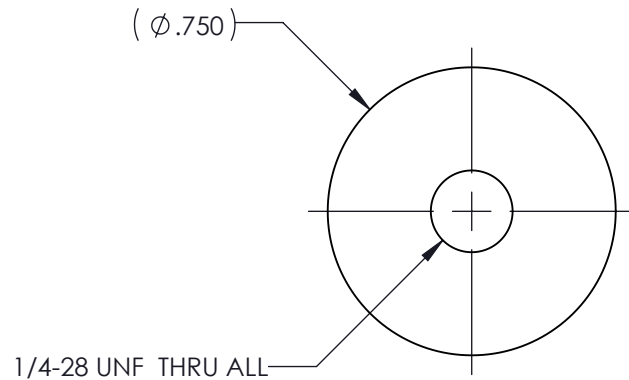
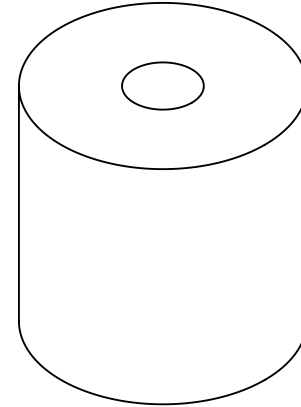
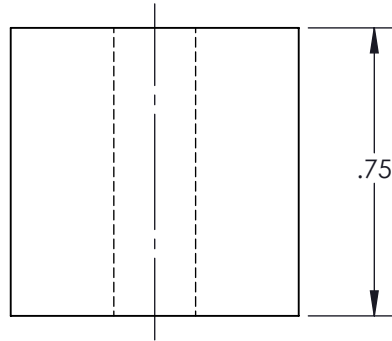
(-35)

BLOCK PAD

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-35	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 19 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED



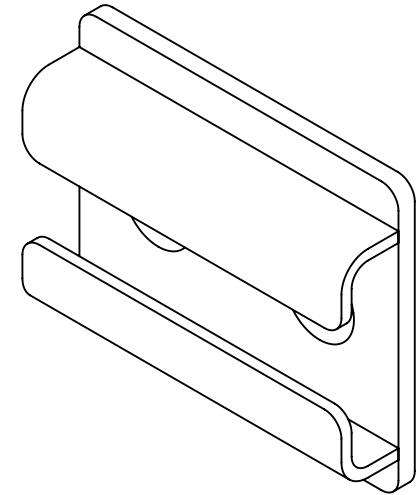
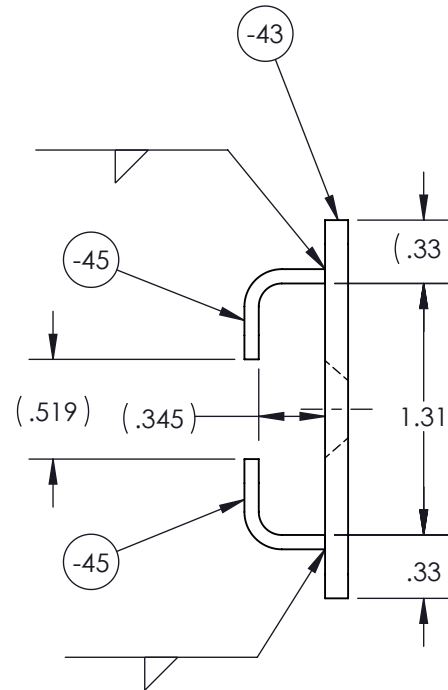
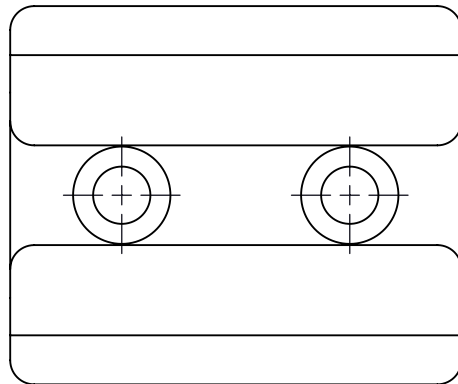
(-37)

RISER

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-37	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005	HEAT TREAT
.XX ± .01	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 2:1	DATE 11/19/2012
SHEET 20 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-41 ADDED MISSING .519 DIM., CH'D FINISH FROM POWDER COAT YELLOW.	1/18/2013	RJC	SE
2	14-0167	-41 CH'D DIM WAS .519 IS (.519).	10/22/2014	DPD	JAG



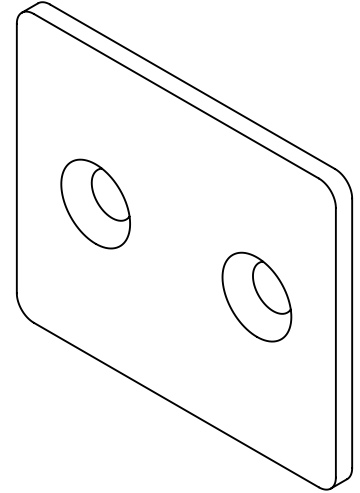
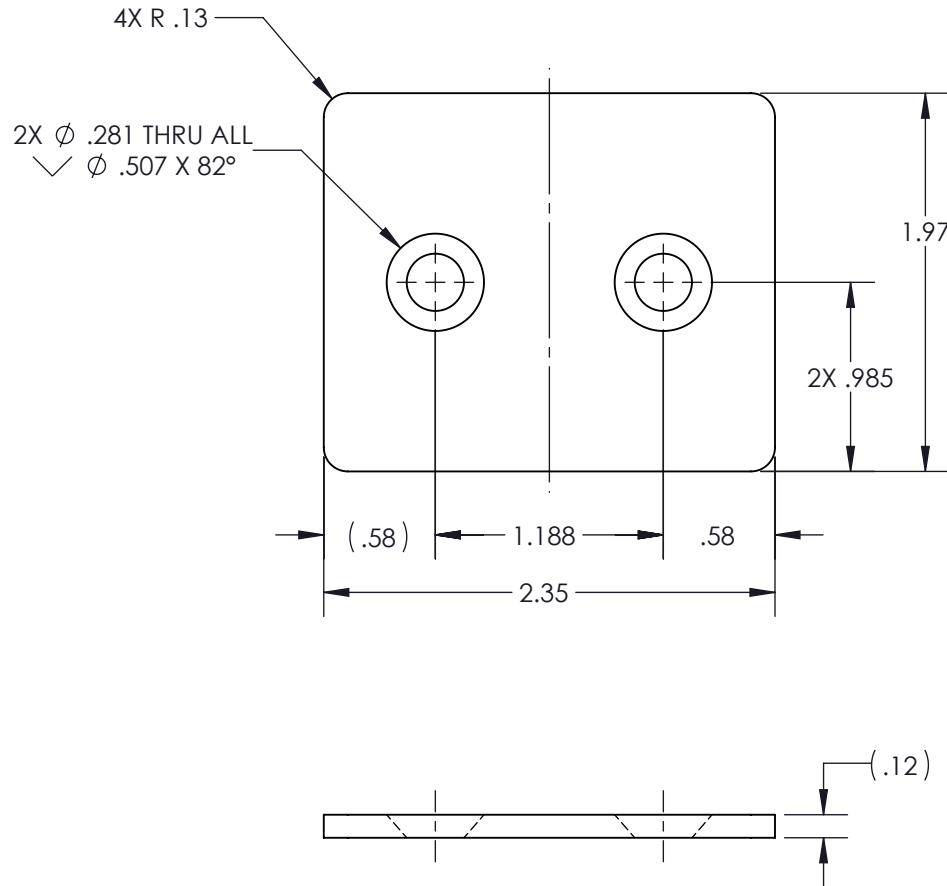
-41

GUIDE WELDMENT

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-41	REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1	DRAWN BY: CLOUGH APPROVED <i>D Weil</i> HEAT TREAT FINISH YELLOW ZINC SPEC .0002-.0004 THICK
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL AW139
SCALE 1:1	DATE 11/19/2012 SHEET 21 OF 43

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-43 CH'D ∇ FROM $\phi .466$ TO $\phi .507$.	1/18/2013	RJC	SE
2	14-0167	-43 CH'D DIM WAS .12 IS (.12).	10/22/2014	DPD	JAG

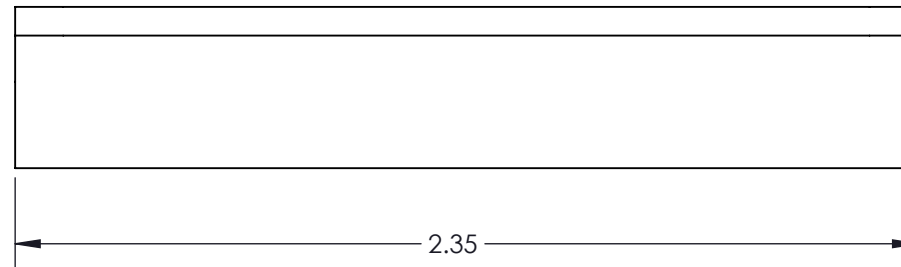
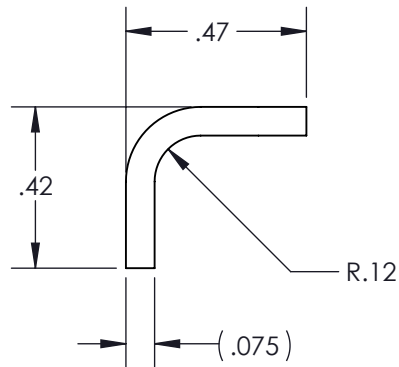
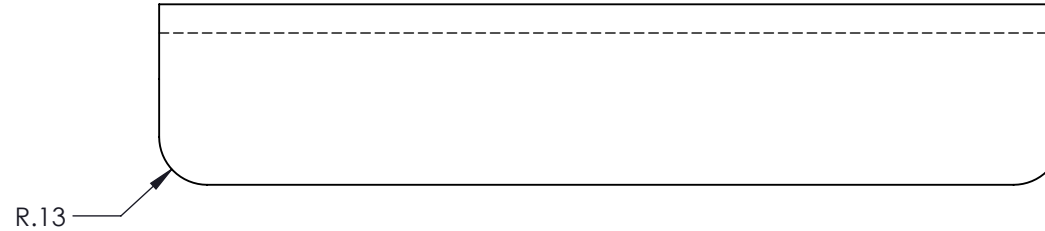
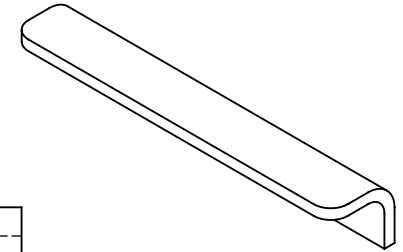


(-43)
GUIDE PLATE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-43	REV 2
MAT'L 1018	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX \pm .010 FRACTIONS $\pm 1/8$	HEAT TREAT
.XX \pm .03 ANGLES $\pm .5^\circ$	FINISH SEE -41 WELDMENT
.X \pm .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 22 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-45 ADDED TOLERANCE $\pm .030$ TO .42 & .47 DIMENSIONS.	1/18/2013	RJC	SE



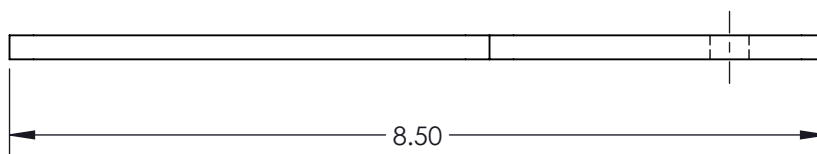
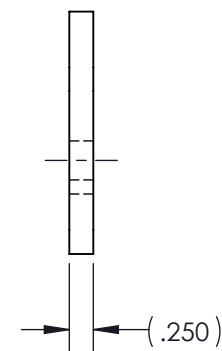
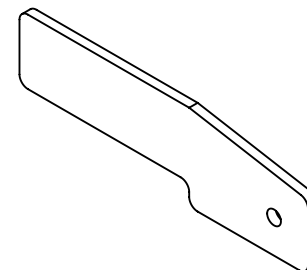
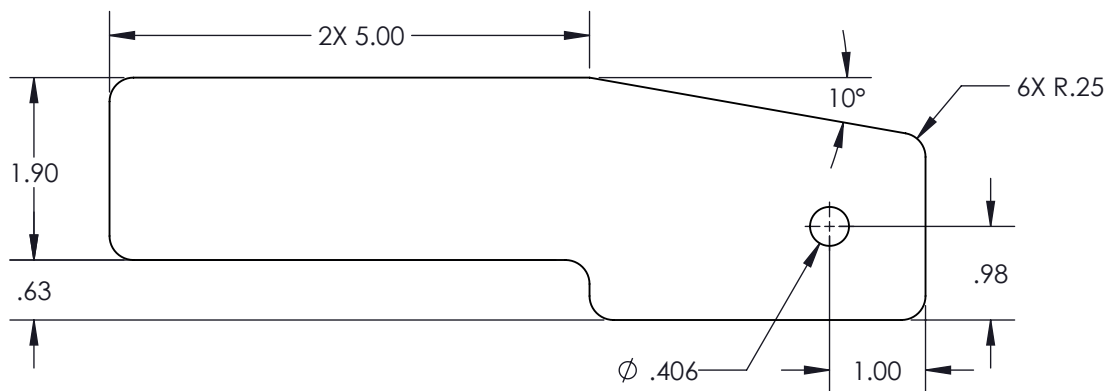
(-45)

GUIDE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-45	REV 2
MAT'L C.R. STEEL	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX $\pm .010$	HEAT TREAT
.XX $\pm .03$	FINISH SEE -41 WELDMENT
.X $\pm .1$	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 2:1	DATE 11/19/2012
SHEET 23 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-48 NEW DESIGN WHEEL BRACKET REPLACED -47, -49, -51.	1/24/2013	RJC	SE



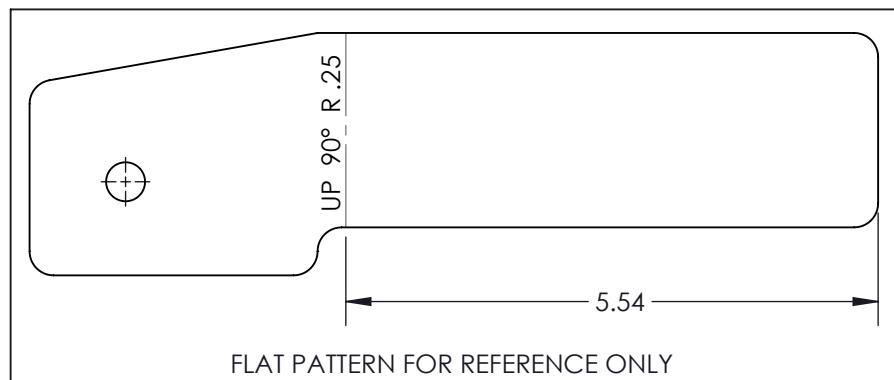
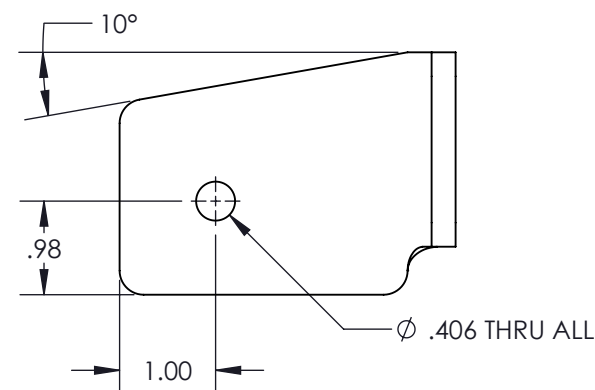
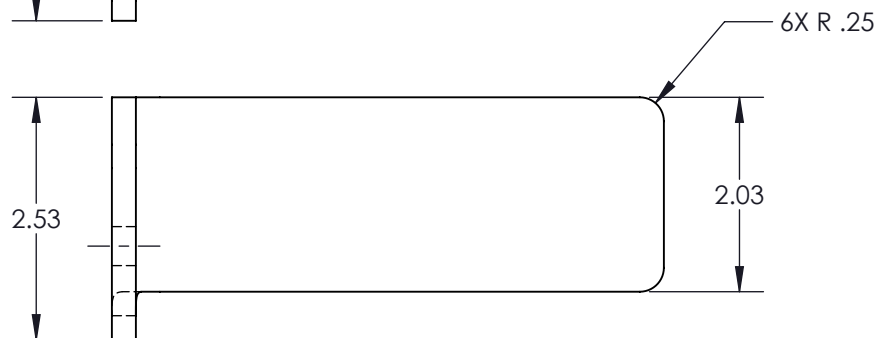
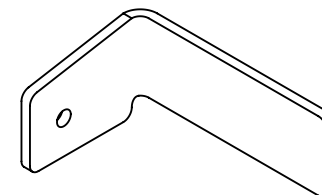
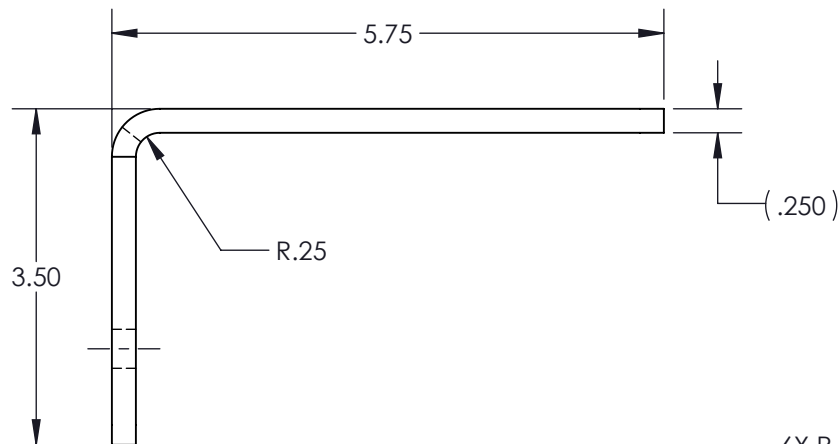
(-48)

WHEEL BRACKET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-48	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 1/22/2013
SHEET 24 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-54 NEW DESIGN WHEEL BRACKET REPLACED -53, -55, -57.	1/24/2013	RJC	SE
2	14-0167	-54 CH'D MAT'L WAS 6061 SQ TUBE IS 6061, ADDED MISSING DIM R.25, CH'D DIM WAS 5X R.25 IS 6X	9/30/2014	DPD	GE



FLAT PATTERN FOR REFERENCE ONLY

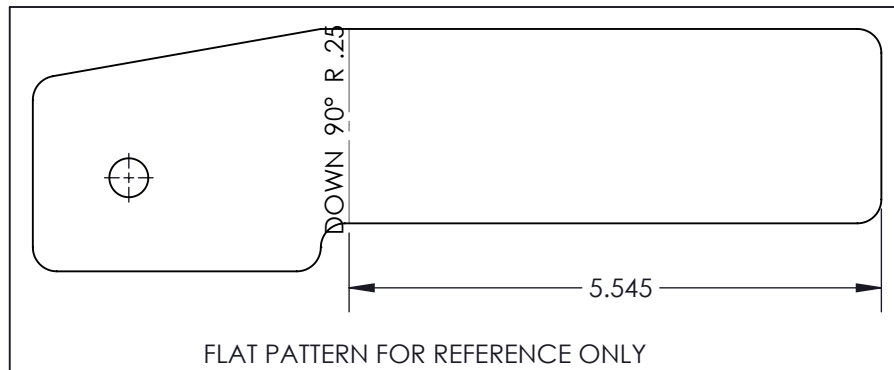
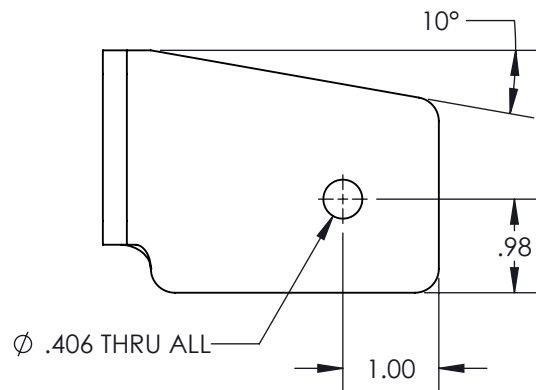
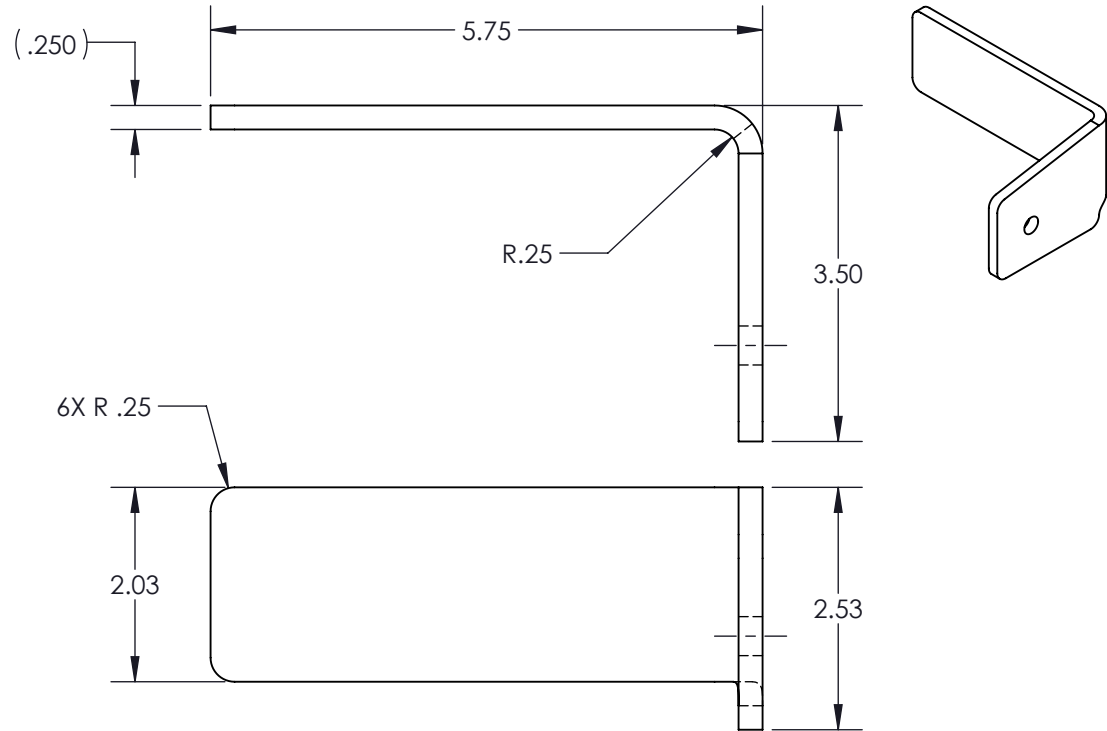
(-54)

R FRT. INSIDE WHEEL BRACKET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-54	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010	HEAT TREAT
.XX ± .03	FINISH SEE -5 WELDMENT
.X ± .1	ANGLES ± 5°
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL AW139
SCALE 1:2	DATE 1/22/2013
SHEET 25 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-56 NEW DESIGN WHEEL BRACKET REPLACED -53, -55, -57.	1/24/2013	RJC	SE
2	14-0167	-56 CH'D MAT'L WAS 6061 SQ TUBE IS 6061, ADDED MISSING DIM R.25, CH'D DIM WAS 5X R.25 IS 6X R.25.	9/30/2014		



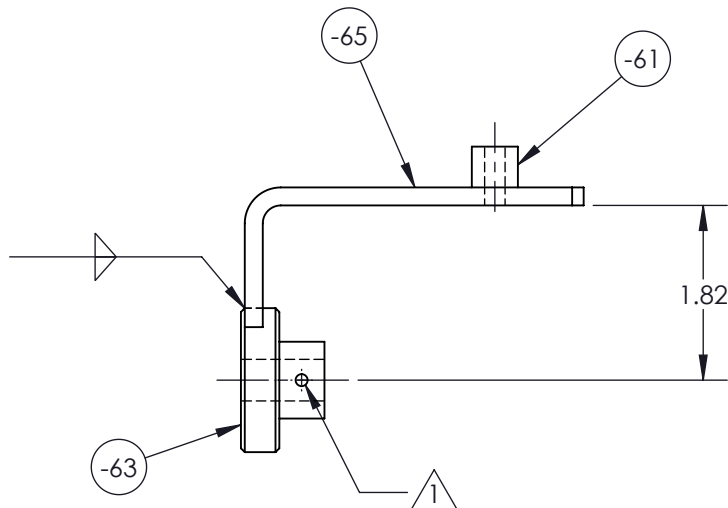
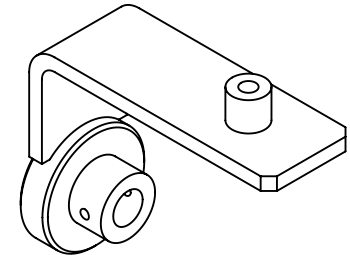
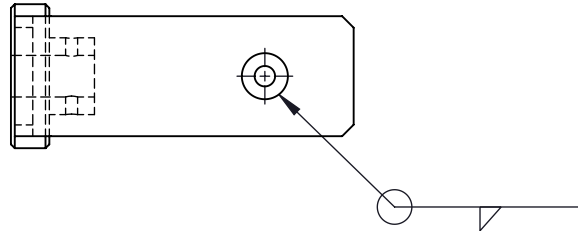
(-56)

L FRT. INSIDE WHEEL BRACKET

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-56	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -5 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 1/22/2013
SHEET 26 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-59 CH'D FINISH FROM POWDER COAT YELLOW TO YELLOW ZINC.	1/18/2013	RJC	SE



(-59)

PIN SLIDE WELDMENT

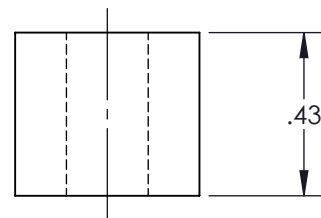
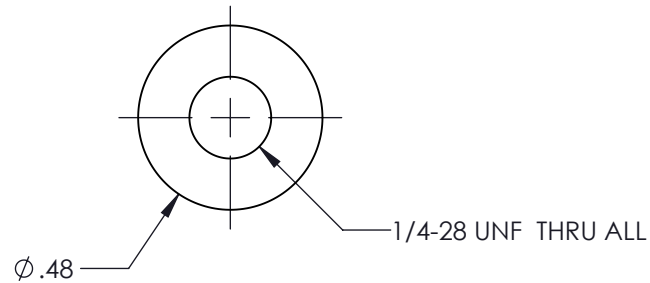
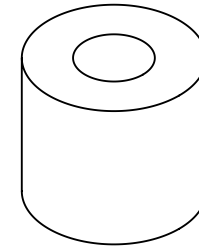
NOTE:

1 ORIENTATION IS NOT CRITICAL, ALIGN AS SHOWN BY EYE.

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-59	REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1	DRAWN BY: CLOUGH APPROVED <i>D Weil</i> HEAT TREAT FINISH YELLOW ZINC SPEC .0002-.0004 THICK USED ON MODEL AW139
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:2	DATE 11/19/2012
SHEET 27 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED



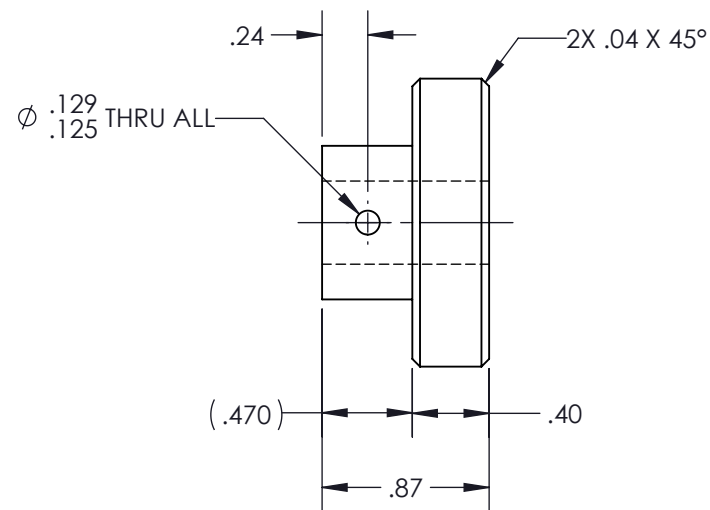
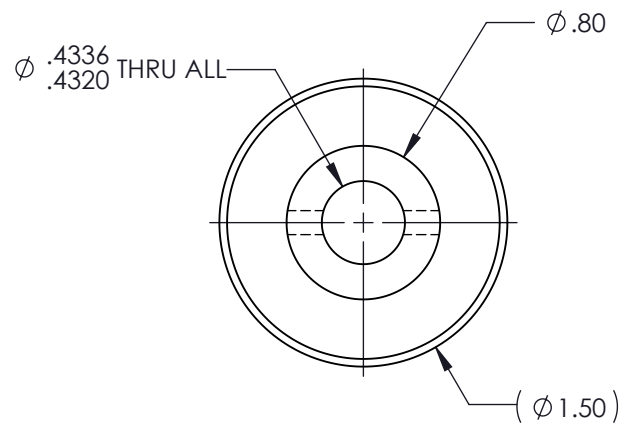
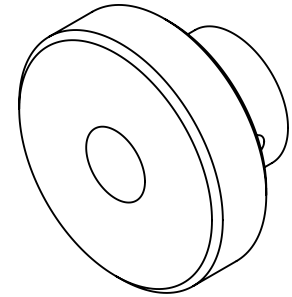
(-61)

BUSHING

TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-61	REV 2
MAT'L 1018	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH SEE -59 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 2:1	DATE 11/19/2012
SHEET 28 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED

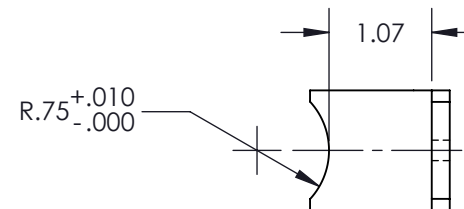
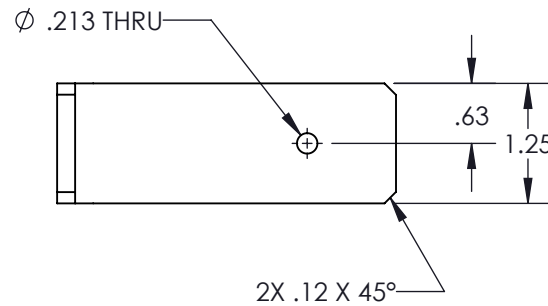
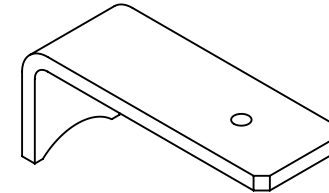
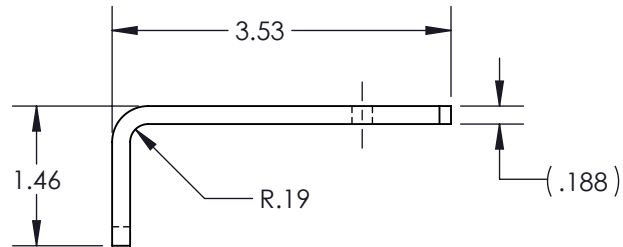


(-63)
PIN ATTACHMENT

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-63	REV 2
MAT'L 1018	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± .5°	FINISH SEE -59 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/20/2012
SHEET 29 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

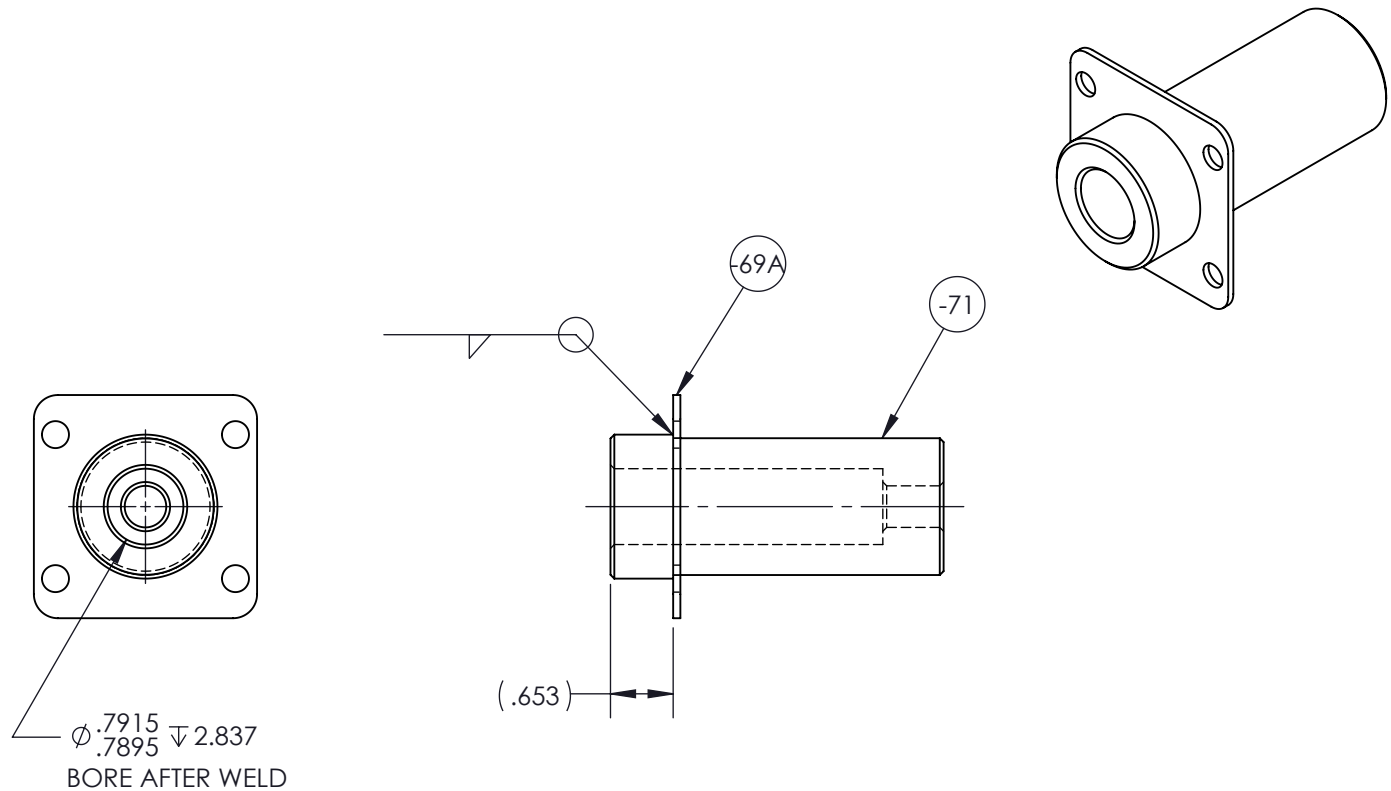


(-65)
SLIDE BAR

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-65	REV 2
MAT'L 1018	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE -59 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/20/2012
SHEET 30 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-67 ADDED Ø.7915 - .7895 BORE AFTER WELD, CH'D FINISH FROM POWDER COAT YELLOW TO YELLOW ZINC.	1/18/2013	RJC	SE
2	14-0167	-67 CH'D DIM WAS LIMITS Ø.7895-.7915 IS LIMITS Ø.7895-.7915 ∇2.837.	10/22/2014	DPD	JAG

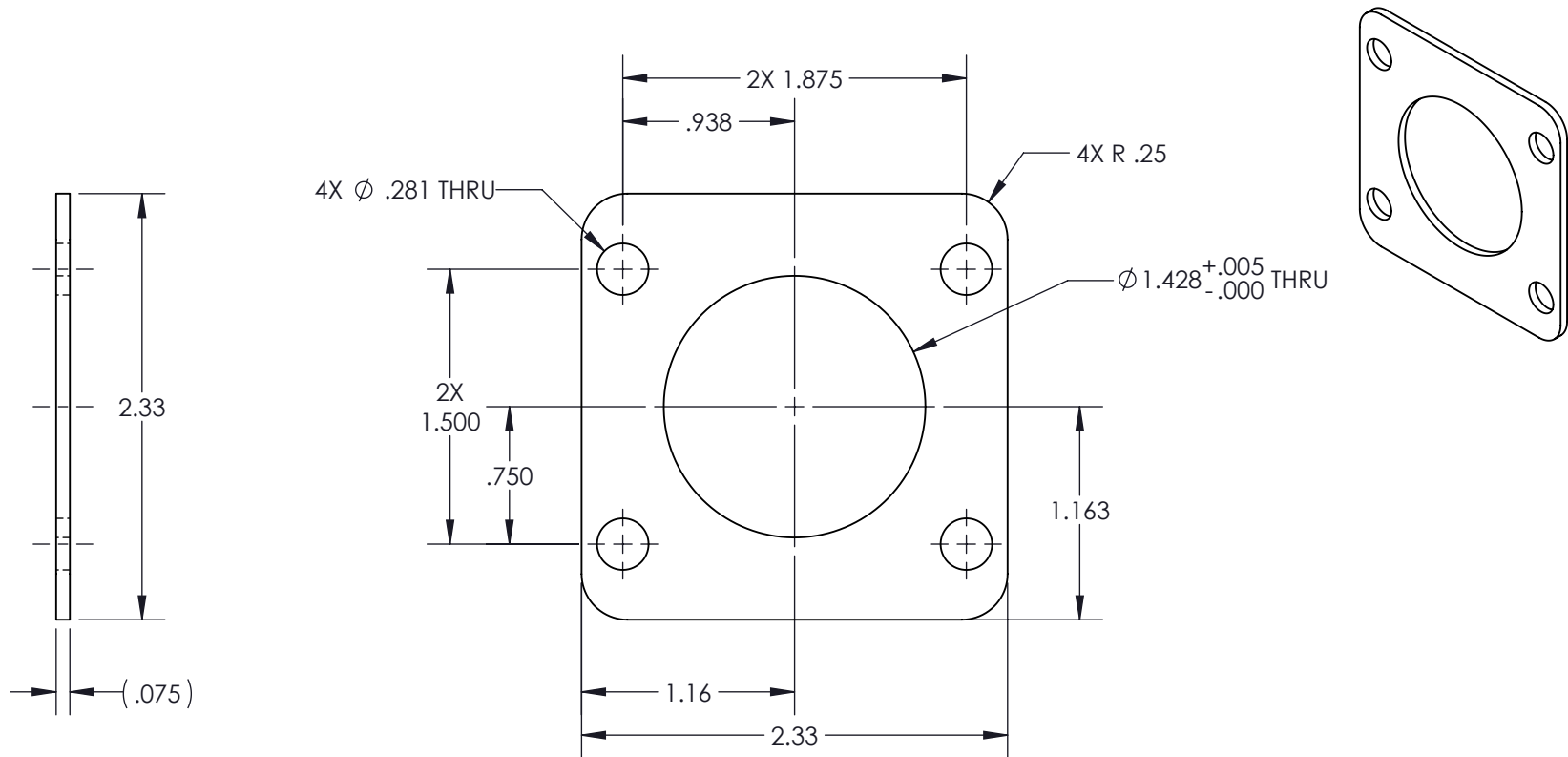


(-67)
PIN HOUSING WELDMENT

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-67	REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1	DRAWN BY: GILBERT APPROVED <i>D Weil</i> HEAT TREAT FINISH YELLOW ZINC SPEC .0002-.0004 THICK
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL AW139
SCALE 1:2	DATE 11/20/2012 SHEET 31 OF 43

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-69 CH'D TO -69A & -69B, ADDED TABLE FOR FINISH CALL OUT.	1/21/2013	RJC	SE
2	14-0167	-69A & -69B DELETED DIMS .225, .413. ADDED DIMS .938, .750.	10/22/2014	DPD	JAG





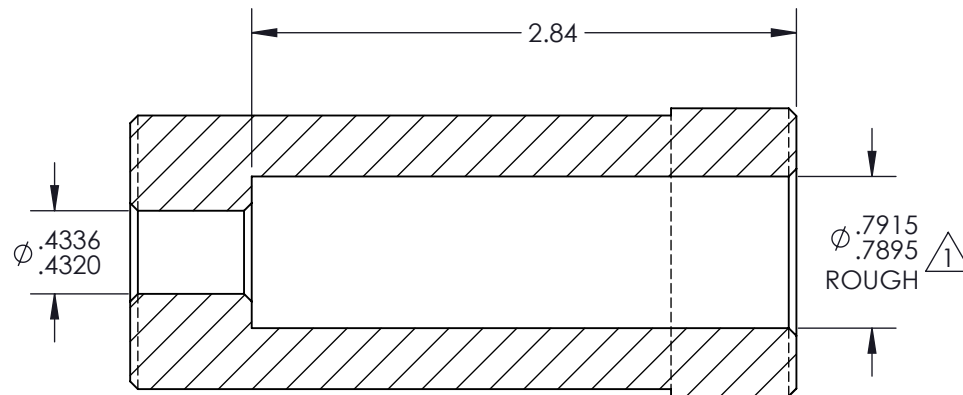
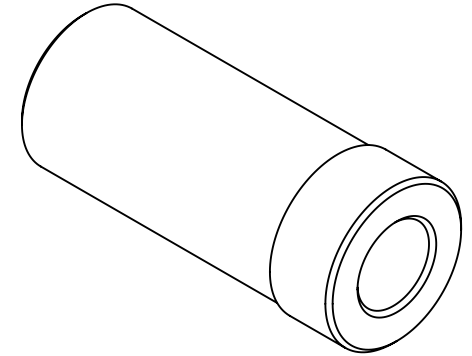
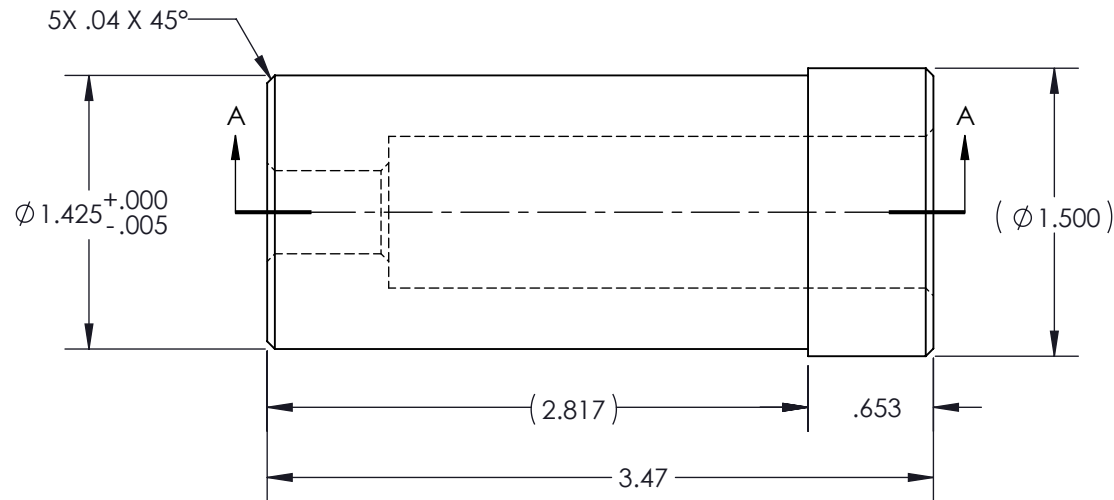
 HOUSING PLATE

-69A	2	NO FINISH, SEE -67 WELDMENT
-69B	2	YELLOW ZINC .0002 - .0004 FINISH

	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-69A & -69B	REV 2
MAT'L 1018	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH SEE TABLE
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 32 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-71 CH'D Ø1.422 +.000-.005 TO Ø1.425 +.000-.002, ADDED ROUGH & 1 NOTE TO Ø.7915-.7895.	1/18/2013	RJC	SE
2	14-0167	-71 CH'D DIM WAS Ø1.425 +.000 -.002 IS Ø1.425 +.000 -.005.	10/22/2014	DPD	JAG



SECTION A-A

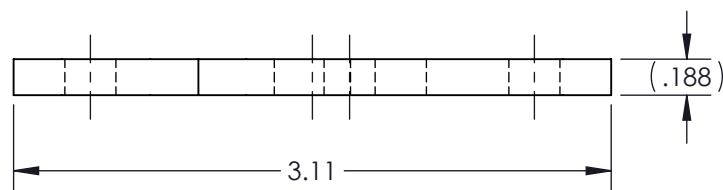
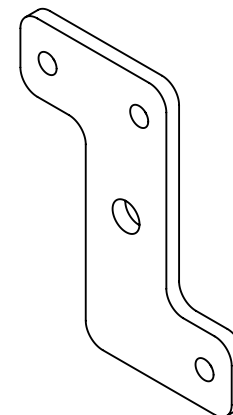
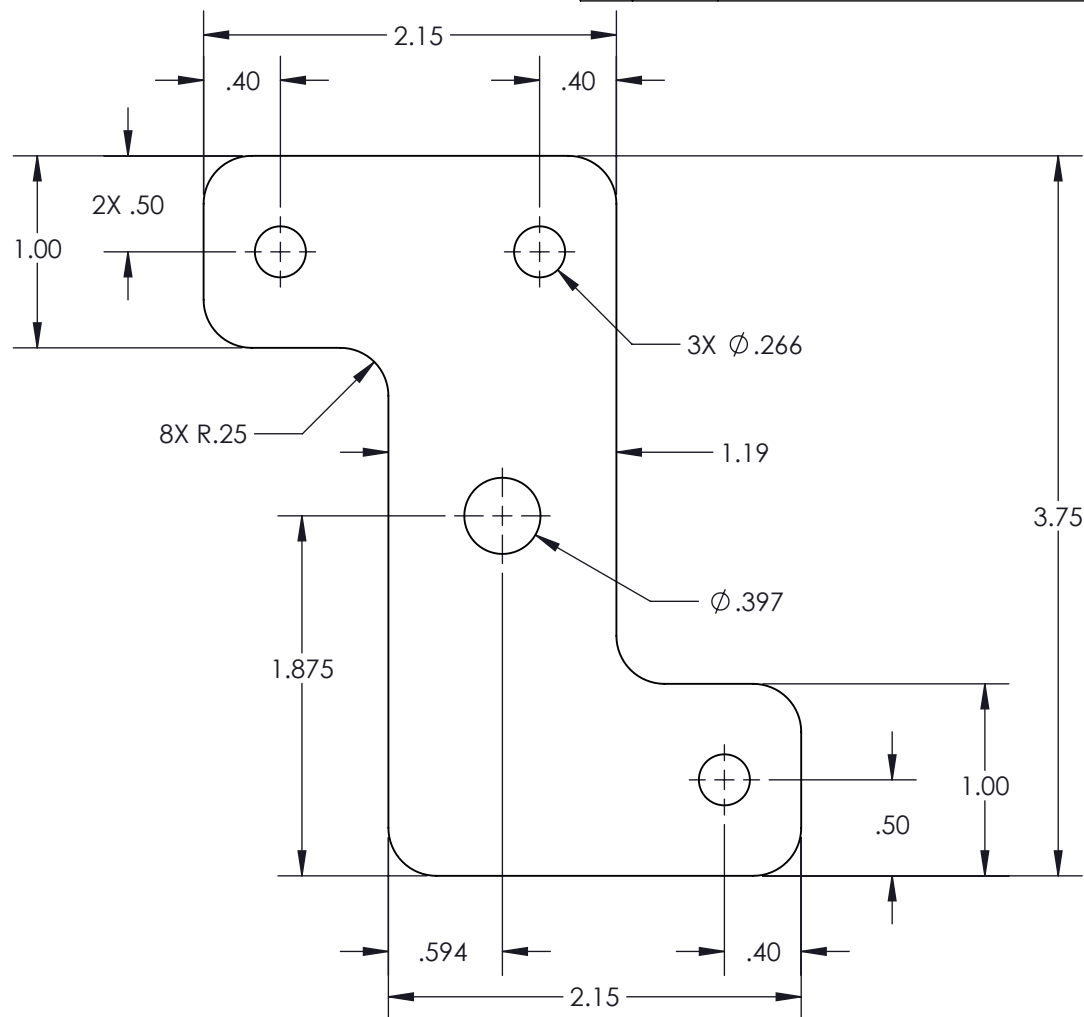
(-71)
PIN HOUSING

NOTE:

1 AFTER WELDING SEE -67 FINISH BORE TO ACHIEVE DIMENSION.

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-71	REV 2
MAT'L 1018	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± .5°	FINISH SEE -67 WELDMENT
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/20/2012
SHEET 33 OF 43	


REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	14-0167	-73 DELETED DIM 1.350. ADDED DIM .40.	10/22/2014	DPD	JAG



(-73)

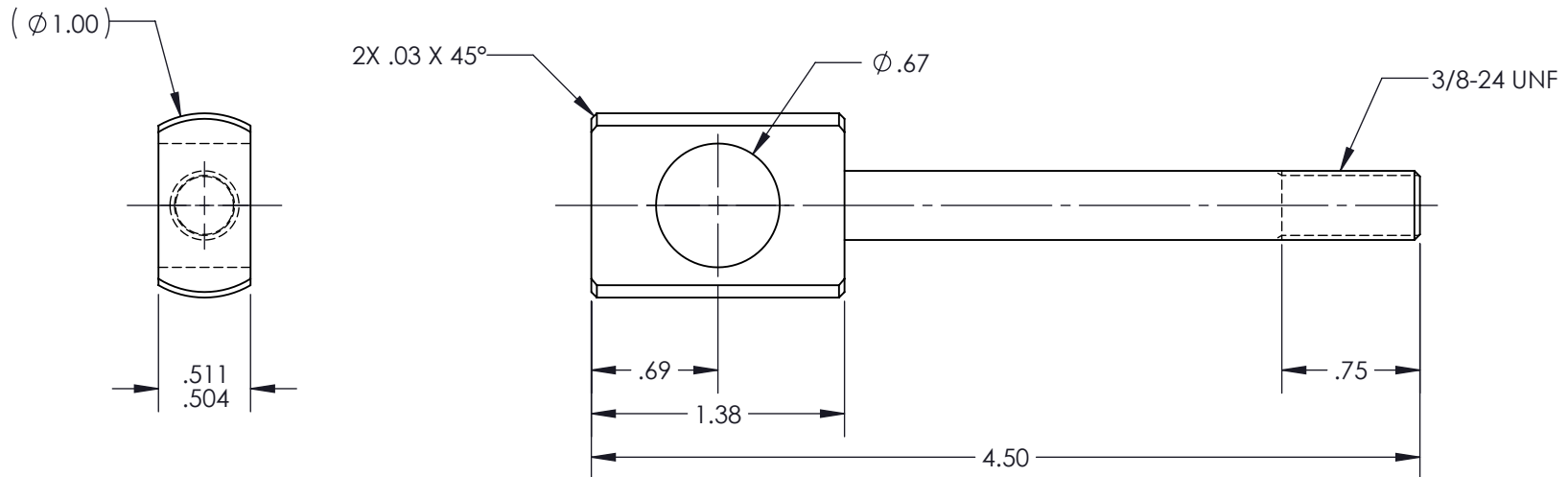
BELL CRANK

NOTE:
1. MASK HOLES PRIOR TO POWDER COATING.

			
TITLE			
TOW BAR, (FLIR)			
DWG NO.			REV
RBW0905G10331-3G-03-73			2
MAT'L 6061		DRAWN BY: CLOUGH	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D Weil</i>	
.XXX ± .010	FRACTIONS ± 1/8	HEAT TREAT	
.XX ± .03	ANGLES ± .5°	FINISH POWDER COAT YELLOW	
.X ± .1		SPEC FED #13538	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R		USED ON MODEL	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING		AW139	
SCALE	1:1	DATE	11/19/2012
		SHEET 34 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-75 CH'D OD FROM Ø.750 TO (Ø1.00), CH'D FLAT DIM. FROM .636 - .629 TO .511 - .504, CH'D HOLE FROM Ø.465 TO Ø.672.	1/18/2013	RJC	SE

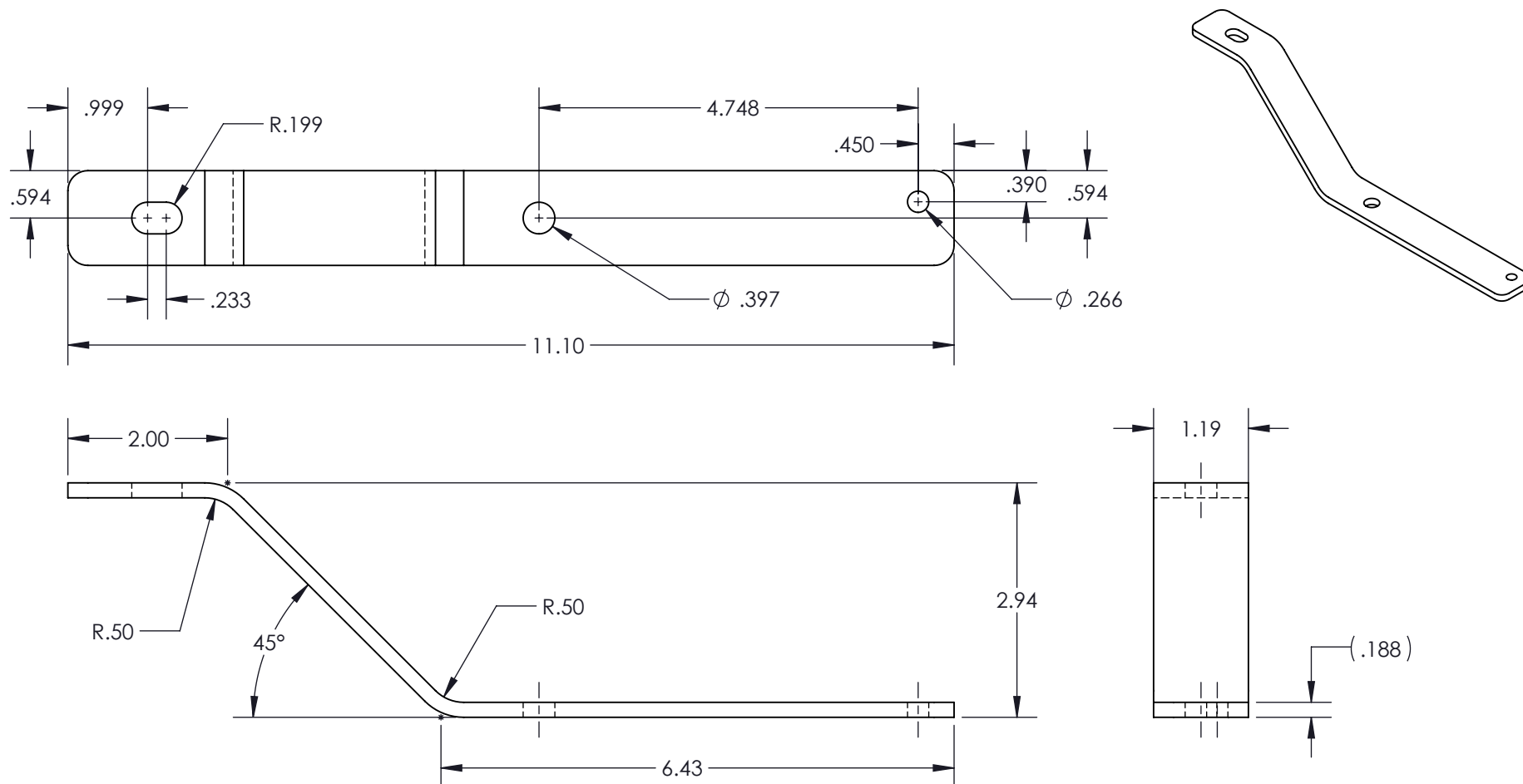


(-75)
CABLE BOLT

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-75	REV 2
MAT'L 12L14	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX $\pm .005$	HEAT TREAT
.XX $\pm .01$	FINISH YELLOW ZINC
.X $\pm .1$	SPEC .0002 - .0004
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 35 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-77 ADDED MISSING Ø.266 HOLE DIM., ADDED ±.030 TOLERANCE TO 1.188 DIM.	1/18/2013	RJC	SE



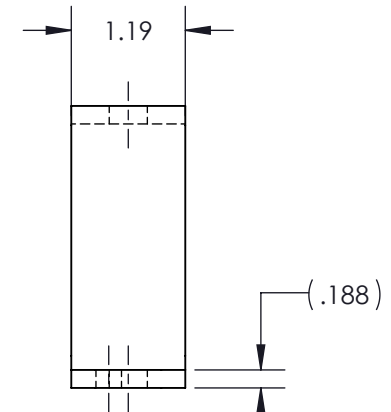
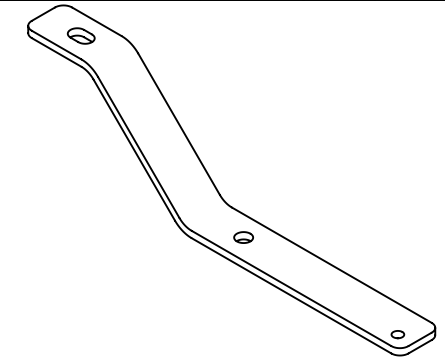
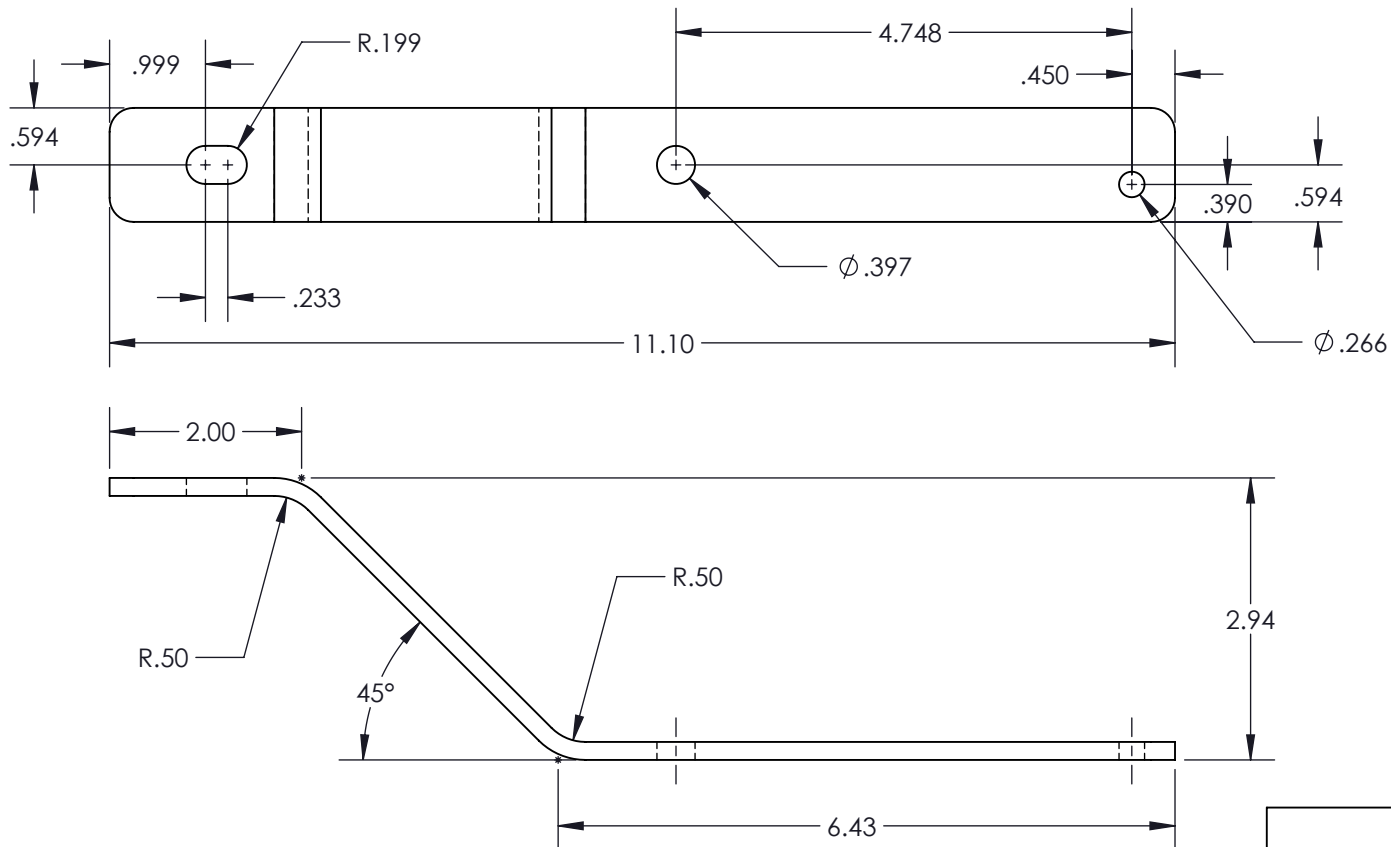
(-77)

TRANSFER BAR RIGHT

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-77	REV 2
MAT'L 6061	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± 5°	FINISH POWDER COAT YELLOW
.X ± .1	SPEC FED #13538
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/28/2012
SHEET 36 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-79 ADDED MISSING Ø.266 HOLE DIM., ADDED ±.030 TOLERANCE TO 1.188 DIM.	1/18/2013	RJC	SE
2	14-0167	-79 CH'D DIM WAS .188 IS (.188).	10/22/2014	DPD	JAG



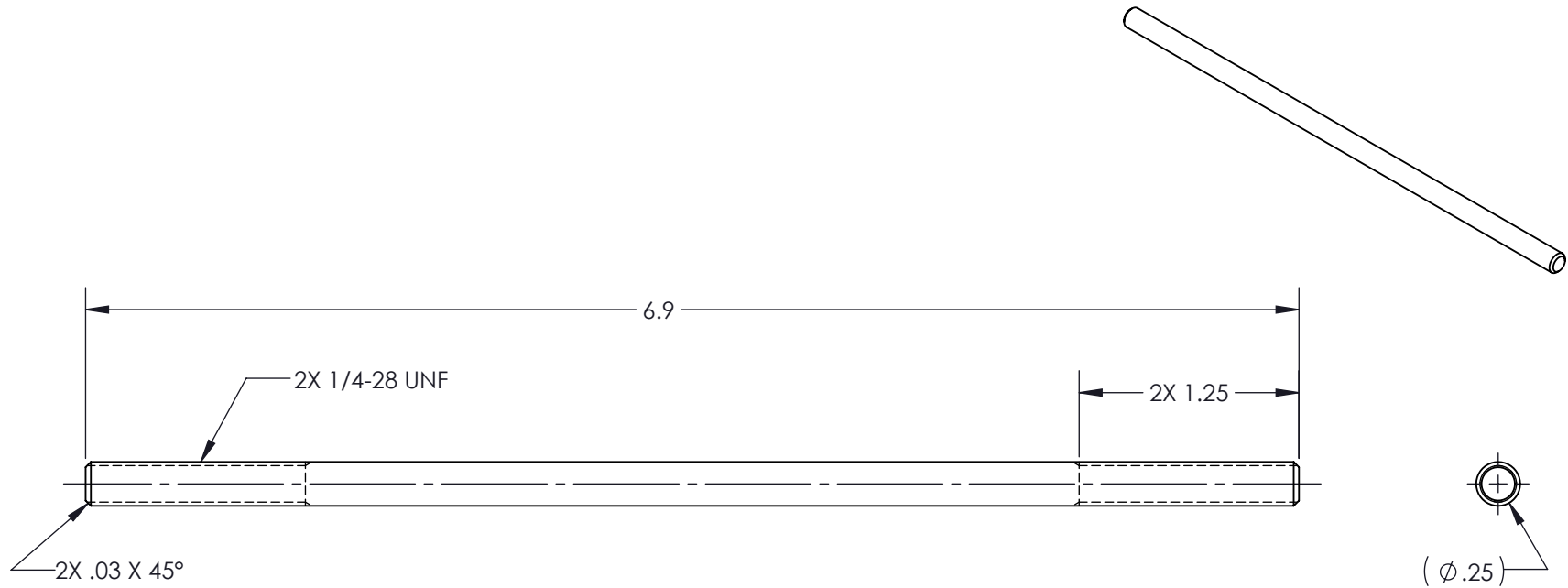
(-79)

TRANSFER BAR LEFT

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-79	REV 2
MAT'L 6061	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .010 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .03 ANGLES ± .5°	FINISH POWDER COAT YELLOW
.X ± .1	SPEC FED #13538
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/28/2012
SHEET 37 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL

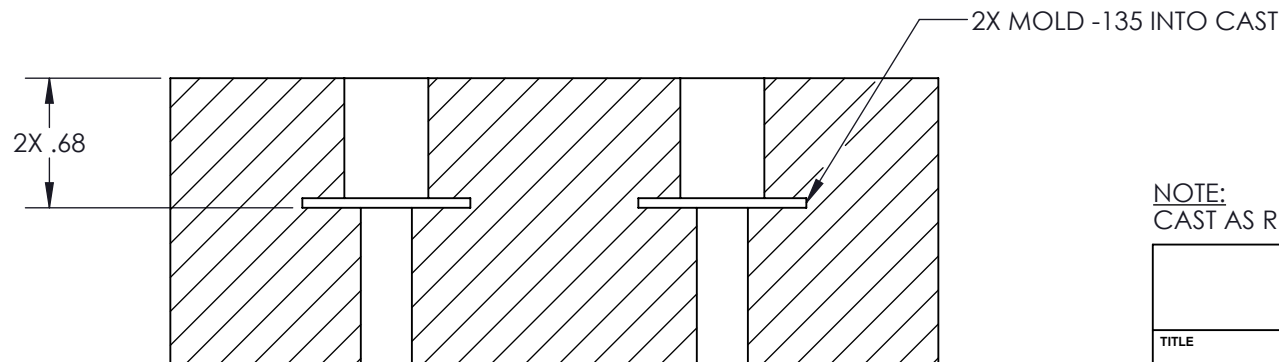
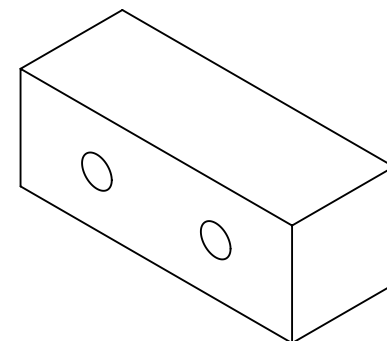
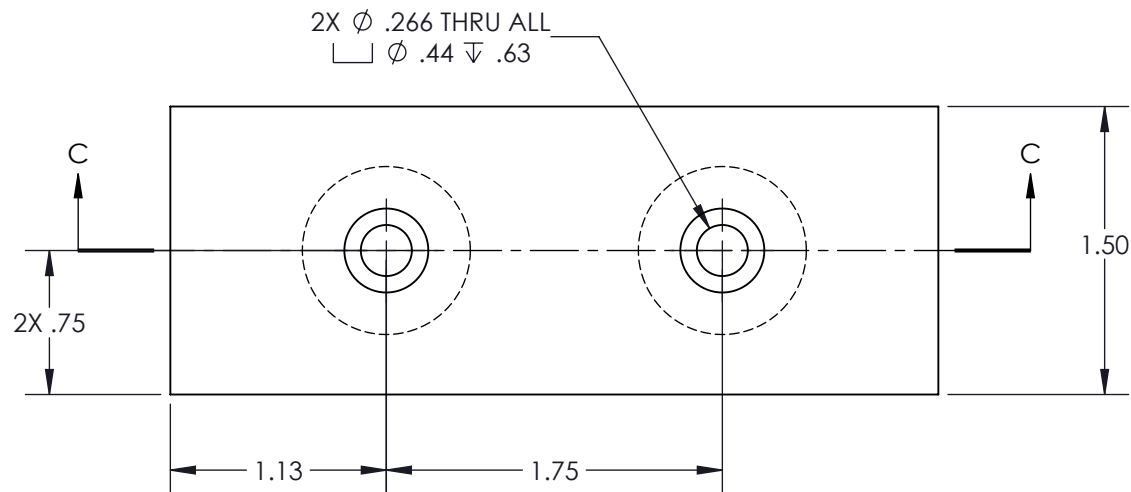


(-81)
SLIDE LINKAGE ROD

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-81	REV 2
MAT'L 12L14	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± .5°	FINISH YELLOW ZINC
.X ± .1	SPEC .0002 - .0004
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/19/2012
SHEET 38 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-83 ADDED NOTE TO MOLD -135 WASHER INTO CAST, CH'D MATERIAL FROM POLYURETHANE 45-50A.	1/18/2013	RJC	SE



SECTION C-C

(-83)

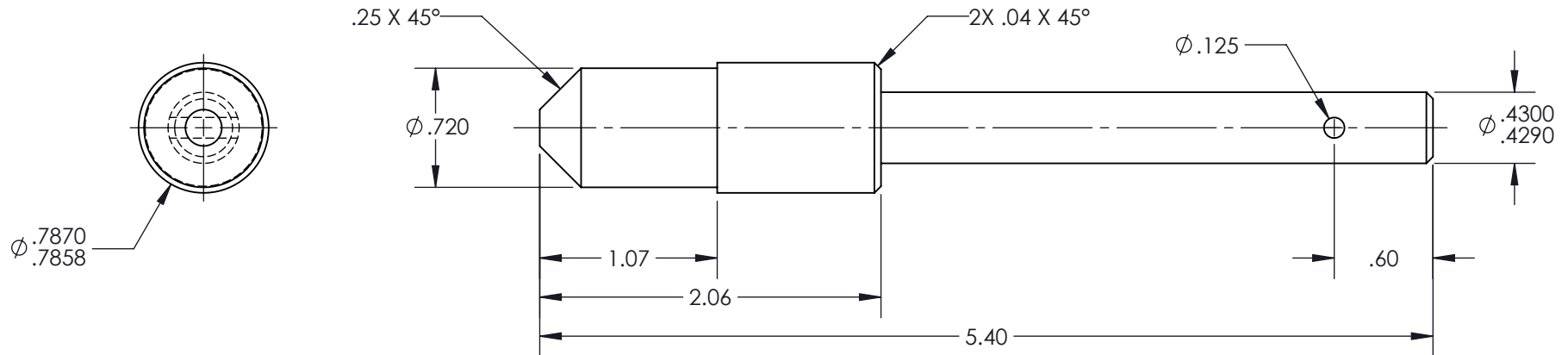
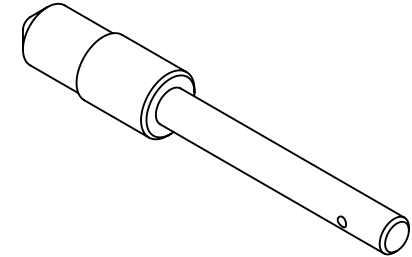
PAD

NOTE:
CAST AS REQUIRED.

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-83	REV 2
MAT'L URETHANE 60A	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01 ANGLES ± 5°	TREAT
.X ± .1	FINISH
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL AW139
SCALE 1:1	DATE 11/19/2012
SHEET 39 OF 43	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL



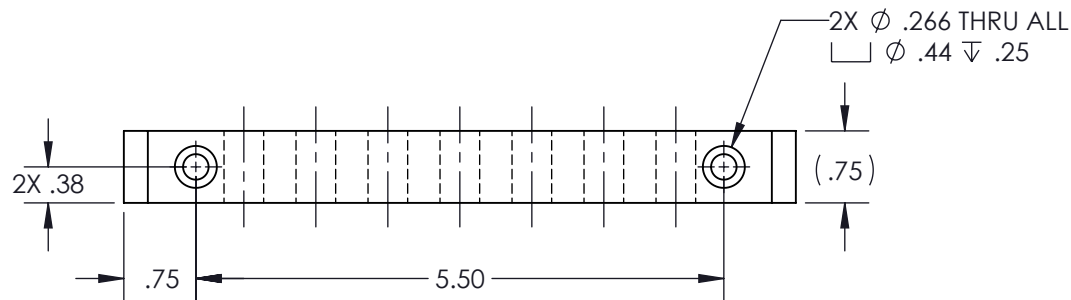
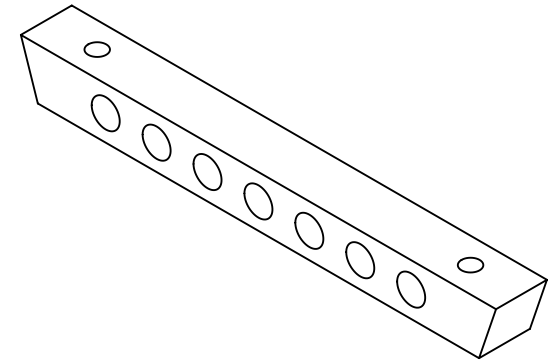
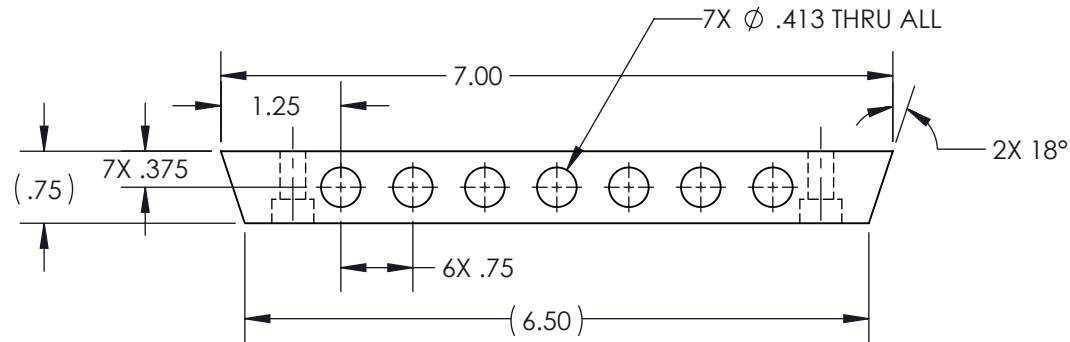
(-85)

PIN

DART AEROSPACE	
TITLE TOW BAR (FLIR)	
DWG NO. RBW0905G10331-3G-03-85	REV 2
MAT'L 4140	DRAWN BY: GILBERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>P Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT RC 40-45
.XX ± .01 ANGLES ± .5°	FINISH YELLOW ZINC
.X ± .1	SPEC .0002 - .0004
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:1	DATE 11/28/2012
SHEET 40 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	14-0167	-87 CH'D DIM WAS 6.50 IS (6.50).	10/22/2014	DPD	JAG



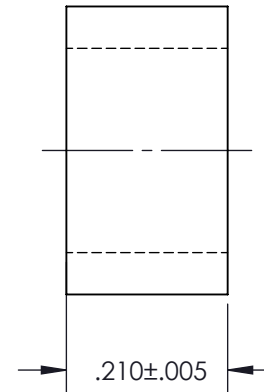
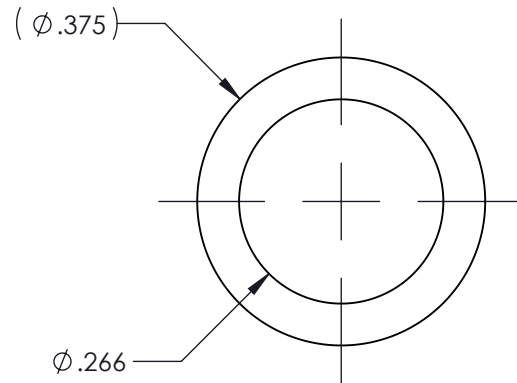
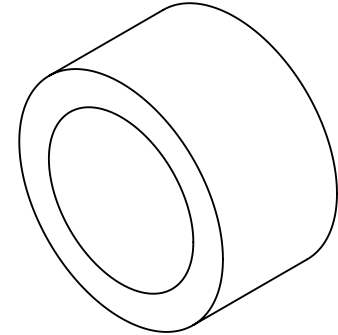
(-87)

TONGUE SHEER BOLT HOLDER

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-87	REV 2
MAT'L 6061	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT TREAT
.XX ± .01 ANGLES ± 5°	FINISH CLEAR ANODIZE
.X ± .1	SPEC MIL-A-8625F, TYPE II, CLASS I
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	AW139
SCALE 1:2	DATE 11/19/2012
SHEET 41 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-129 ADDED DWG, USED FOR -77 & -79 TRANSFER BARS.	1/24/2013	RJC	SE
2	14-0167	-129 CH'D DIM WAS Ø.375 IS (Ø.375).	10/22/2014	DPD	JAG



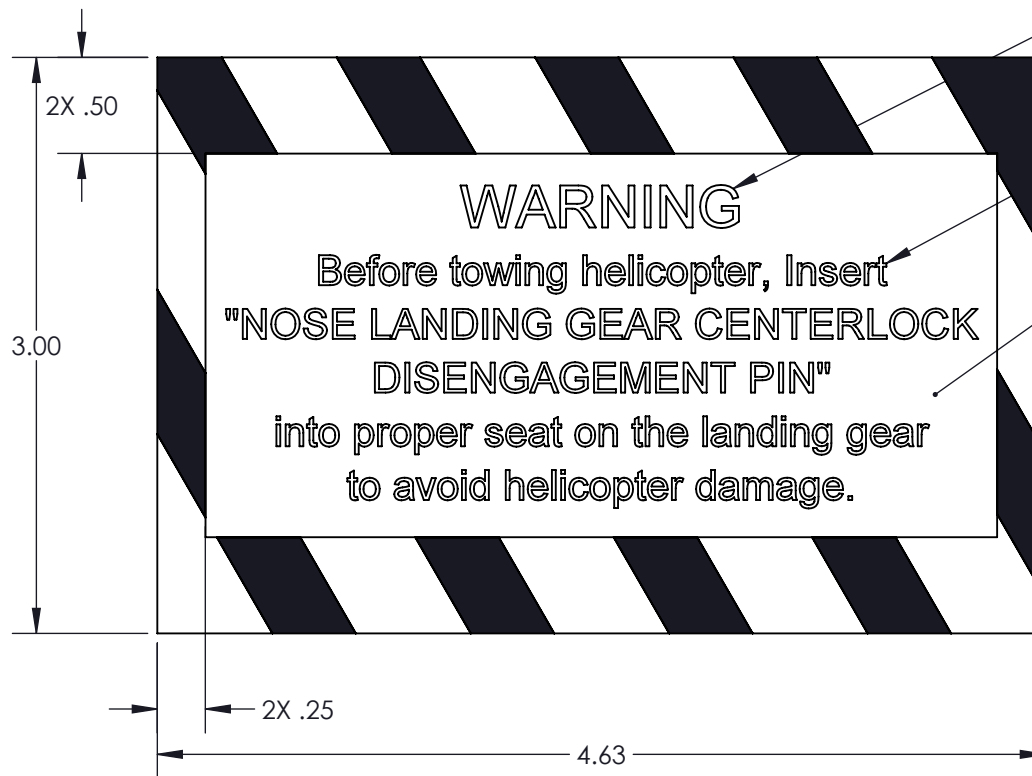
(-129)

SLEEVE

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-129	REV 2
MAT'L BRONZE	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01 ANGLES ± .5°	TREAT
.X ± .1	FINISH
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
	AW139
SCALE 4:1	DATE 1/23/2013
SHEET 42 OF 43	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	14-0167	-151 ADDED DRAWING.	10/1/2014	DPD	GE



(-151)

WARNING STICKER WITH ADHESIVE BACK

DART AEROSPACE	
TITLE TOW BAR, (FLIR)	
DWG NO. RBW0905G10331-3G-03-151	REV 2
MAT'L VINYL	DRAWN BY:
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01 ANGLES ± 5°	TREAT
.X ± .1	FINISH
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 1:1	DATE 9/30/2014
SHEET 43 OF 43	